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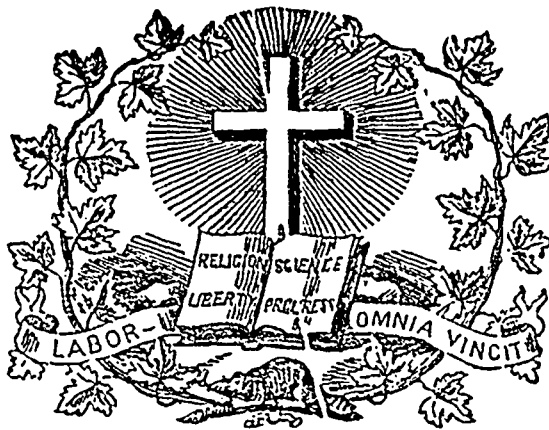
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SUMMARY.—**LITERATURE:** Poetry—The Standard Bearer, (by Mrs. Leprohon).—The Secrets of Sahle Island.—Wild Kaffir Life and Wild Kaffir Intelligence.—The Oldest City in the World.—The Teacher's Reward.—Education: School Drill an aid to Volunteering.—Helps over Hard Places.—The Earl of Malmesbury on Popular Education.—National Musical Education in England.—Physical Exercises and Recreation for Girls.—**SCIENCE:** A Strange Place for Rotifers.—**OFFICIAL NOTICES:** Official Tour of the Superintendent of Education.—Appointments.—Deputy Superintendent of Education.—Inspector of Schools.—Examiners.—School Commissioners and School Trustees.—Books approved.—Diplomas granted in the Normal Schools.—Diplomas granted by the Boards of Examiners.—Erections, &c. of Municipalities.—Notice to School Commissioners and School Trustees.—Notice to Teachers.—Situations wanted.—Donations to the Library of the Department.—**EDITORIAL:** Departure of the Hon. Mr. Chauveau for Europe.—The McGill University Lecture.—Short School Time, with Military or Naval Drill: in connection especially with the subject of an Efficient Militia System.—Twenty-ninth Convention of the Teachers' Association in connection with Laval Normal School.—NOTICES OF BOOKS AND RECENT PUBLICATIONS: Mauvialt: *Histoire des Abénakis*.—Barthrick: 'The Battles of the World'.—Taylor: Portraits of British Americans.—*La Revue Canadienne*.—Asia: *Depuis l'Établissement des Premières Colonies jusqu'à l'Élection du Président Lincoln*.—Desmazes: *Prisons et Grâces en France, d'après des textes inédits*.—Fenney: A Grammatical Analyzer.—Bain: English Composition and Rhetoric.—**MONTHLY SUMMARY:** Educational Intelligence.—Literary Intelligence.—Scientific Intelligence.—Neurological Intelligence.—Miscellaneous Intelligence.—**ADVERTISEMENT.**

LITERATURE.

POETRY.

(Written for the *Journal of Education*.)

THE STANDARD-BEARER.

BY MRS. LEPROHON.

Far and deep the roar of battle
Thundered loud o'er hill and dale,
Mixed with musketry's sharp rattle;
Bullets fell like leaden hail,
Chargers riderless, loud neighing,
Crushed down with iron heel,
Wounded soldiers, moaning—praying—
Making Heaven one last appeal.

See yon banner fitful waving
Where fierce rolls the battle tide,
Soldiers, deadly fire braving,
Rally round with hero's pride;
Fair it looked in early morning
When 'twas proudly first unrolled,
Sunbeams bright its sheen adorning;
Blackened, bloodstained, now, each fold.

A tall and slight limbed stripling
Held it first within his clasp,
Round his face bright curls rippling,
Soon 'twas stricken from his grasp,

And caught up by foeman Lancer
With a proud exultant cry,
But back came defiant answer,
"We will rescue it or die!"

What a struggle! stern browed faces
Meet in close and deadly strife,
Winning, losing a few paces
At the price of untold life;
But though scores and scores are falling,
Like leaves strewn thick the plain,
They seek 'mid that scene appalling
But to win their flag again.

Ah, 't is done, with wild hurraing,
See they wave it overhead,
With their weapons passage fraying
Amid foemen, dying, dead,
And the tide of battle surges
Adown that flower grown way,
Where from the copse emerges
A fresh foe eager for the fray.

Vain the latter's thirst for glory,
Though for hours raged the fight,
And deeds fit to live in story,
Were wrought with valour's might,
Still that banner flashed victorious
'Bove the heads of friend and foe,
When the sun sank red and glorious,
It waved proudly in its glow.

Meanwhile, what of the fair stripling,
So early stricken down,
His gold curls thickly rippling
Round his white brow free from frown?
Heavy chargers o'er his form
Had passed on with reckless tread,
Round him close had waged war's storm,
Yet, crushed—maimed—he was not dead.

With breast tumultuous swelling,
In thought, bending o'er him now,
Hot tears from our eyelids rolling,
We wipe his blood-stained brow,
And we think with pitying anguish,
That throughout the weary day,
He was left in pain to languish,
Wounded, bleeding, as he lay.

Yet, strange, a smile bright, tender,
Trembles soft o'er cheek and brow,
'T is not from the sunset's splendour
They gain their bright, glad glow;

And his lips unconscious mutter
Words, the burden e'er the same,
And the sound so oft they utter
Is a mother's sacred name.

And he thinks that she is near him,
Her fond arms round him thrown,
Bending gently down to hear him,
His hand clasp'd in her own;
And the stormy sounds of battle
His dulled ear no longer grieve,
He hears birds and lowing cattle
In his childhood's home at eve.

The thick darkness fast descending
Vexes not his dim sight now,
For the death damps thick are blending
With the blood clots on his brow;
Soft smiles still his pale lips wreathing,
With the star light's first faint ray,
His mother's name still breathing,
His spirit passed away.

The Secrets of Sable Island. (1)

On the charts of the northeast Atlantic coast, in about latitude 41° and longitude 59°, eighty or ninety miles southeast from Nova Scotia, is laid down the Island of Sable. It is needless to be precise about the locality, which is often, alas! too easily found; and few are prompted by mere curiosity to seek it out. Neither would accuracy avail the mariner to avoid it, for he is treading the very threshold of danger when full thirty miles distant, and the Island quite out of sight below the horizon. Like the monster polypus of ancient story, it lieth in the very track of commerce, stretching out its huge tentacles for its prey, enveloped in fogs and mists, and scarcely distinguishable from the gray surf that unceasingly lashes its shores. Insidious currents sweep round it in most erratic course—perpetual almoners to its insatiate maw. Vessels lose their reckoning, and are often in the very jaws of destruction when they imagine themselves far from danger. The junction of the Gulf Stream and the waters of the St. Lawrence form eddies which inevitably sweep them upon the shoals. Once a sealed dispatch boat was sent out from the Island before a southeast gale, in hope that it might carry tidings to the main land, but in thirteen days it came back to a point within six miles from whence it started!

The whole region for leagues around is a trap and a snare. One sunken bar stretches sixteen miles away to the northeast, another twenty-eight miles to the northwest. The embrace of these long arms is death, for between them lie alternate deeps and shoals, and when the sea is angry it thunders and reverberates along a front of thirty miles, extending twenty-eight miles to seaward. No light house throws its warning gleam beyond this seething deathline, for stone structures will not stand upon the ever-shifting sands, and wooden ones of sufficient height could not withstand the storms. The mariner drifts to his grave through total gloom. Between the years 1806-27 forty vessels, and it is supposed many more, were lost. The whole Island bristles with stark timbers and the débris of wrecks. How many of them are the dumb witnesses of an untold tale!

Imagination may run fancy-free through the field of romance that invests the Isle of Sable. Strange traditions have such close alliance there with stranger facts, that truth and fiction become synonymous to the eager ear that listens. To the credulous fisherman or superstitious sailor the tale need be but told to be believed. Ask the wayfarer, who perchance was cast upon its mysterious shores, what he saw and heard there, and he will shake his head in silence; he has no disposition to unearth its secrets. Even the hardy wreckers, who serve humanity upon its

treacherous sands, patrol its precincts with a kind of awe, and crouch by the hearth at night when the storm rages fiercest; for at such a time ghostly shadows are often seen to flit from point to point, strange lights gleam and vanish, shrill cries, hoarse voices giving commands, and rattling of chains mingle with the thunder of the surf. But when the indefatigable "look-out" trudges forth to the beach after a storm, he can seldom find palpable evidences of these invisible things—no shattered wrecks or swollen corpses upon the beach. All those clamors and wails of distress were but empty sounds signifying nothing! Yet the self-same ghostly voices were heard three hundred years ago on that fatal day, the 28th of August, 1583, when the intrepid Sir Humphrey Gilbert lost his finest ship. The historian tells us that they "scared the helmsman from his post;" and shortly afterward the vessel beat to pieces on the Northeast Bar. Only twelve men survived the dread disaster. These escaped in a boat to the Nova Scotia coast, and from them we gain our first definite acquaintance with Sable Island, signalized by the holocaust of one hundred men to its insatiable shoals.

That the locality is most trying to superstitious nerves we can well conceive. When human skeletons start unbidden from their resting places in broad day-light, fancy is apt to run wild among the spectres that darkness conjures up. There is a preternatural shifting of scenes after every violent storm. Sandy hillocks fifty feet high, that have been landmarks for a generation, have tumbled into the sea; mountains of sand are piled to day where yesterday the ground was level as a floor. Old wrecks, long buried, come forth to view. Scores of human skeletons are unearthed. Acres of land have disappeared beneath the sea, and old inlets are filled up, and hidden treasure is revealed. Since 1820 five or six miles of the west end of the Island have been submerged, and the ocean now rolls fathoms deep where the Superintendent's house formerly stood, and three miles out to sea. No secure anchorage in this world's haven have the heroic little community who occupy here to rescue life and property.

Norse tradition credits the first discovery of Sable Island to the bold Bjorn Heriafson, in the ninth century. From that period history is for a long time silent; but we know that it must have had occasional visitors, for in 1553 a company of "Portingals" were induced by favorable report to stock it with swine and cattle, which they left there to breed, and for which act, whether prompted by humane or speculative motives, many a shipwrecked mariner for years after had great cause to bless them. The survivors of Sir Humphrey Gilbert's disaster found them to have greatly multiplied; and in 1635 they are said to have numbered fully 800 head. The Island was doubtless well known to the French when they colonized Acadia; for it was made a penal colony in 1598, when forty French convicts were landed there by the Marquis De la Roche and left to their fate. Seven years afterwards a vessel was sent out by royal command to take them back to France, but only twelve survived to tell the story of their sufferings, gaunt and bearded creatures clad in seal-skins, scarred by many a combat with seals and sea-lions, and seathed by the pitiless storms of winter, which they weathered without a shelter, until a wreck afforded them materials for a hut. The recital of their sufferings before the Court of Henry IV. earned them a free pardon and fifty golden crowns apiece; but hard as their experience had been, it nevertheless possessed sufficient attractions to lure them back, now self-exiled, to their former home, where they long plied a prosperous trade in furs. Traces of their abode still remain. The "French Gardens" are pointed out to the curious, and it is said that the ghost of a certain Paris gentleman always appears to wrecked Frenchmen, and complains of King Henry for robbing him of his wife, and banishing him there for no crime, along with the convicts of 1598.

At that time Sable Island abounded in black foxes, invaluable for their skins, which to this day bring fabulous prices; but these have long since disappeared. The great morse, or walrus, also made their home there and reared their young. They, too, have departed though even within late years curiosity has occasionally lured them back to their old haunts; and they have been

¹ The writer is indebted to J. Bernard Gilpin, M. D., M. R. C. S., of Halifax, Nova Scotia, for valuable sketches and many interesting facts.

seen by people now living basking upon the sands, long after more northern localities were deserted by their kind. Their huge, long-tusked skulls are frequently found half hidden in the sand, not less the objects of curiosity to the naturalist than of wonder to the ignorant. Not long ago a stupid fisherman collected his gaping comrades and exhibited one of these with tusks inverted, which he averred was the skull of a gigantic *gout*.

Subsequently, and up to the beginning of the nineteenth century, the Island was much resorted to by fishermen; and as wrecks multiplied with the increase of commerce, the cupidity of bad men was excited, and the Island became the abode of wreckers and pirates and vagabonds of infamous character. Few who survived shipwreck, to reach its then inhospitable shores, ever lived to bear their story to the main land, but jewels and articles of rare value were often exhibited confidentially as having come from there, and many an adventurer, who left his home for clandestine voyage, returned not long after with "galore" of wealth. Then, by-and-by, horrid tales of blood began to be whispered about, and the Isle of Sable became an ill-omened name, at which people shuddered and turned pale, less because the winds and waves were merciless than on account of man's horrid inhumanity to man. Here, secure from reach of the law, and protected by the very dangers which multiplied his victims, the wrecker plied his murderous calling. This dark and bloody ground could furnish materials for a hundred romances, whose recital would make the blood run cold, but such volume of the Island's history must ever remain sealed to mortal ken.

It is a relief to turn from this tragic period to the opening of the present century, when humanity prompted the philanthropists of Nova Scotia, headed by the Executive, to lay the foundation of the present relief Establishment, whose usefulness every commercial country has had mournful occasion to acknowledge. That which brought the project under immediate consideration was the wreck of the transport *Princess Amelia*, having on board the furniture of Prince Edward, the present good Queen's father, with recruits, officers, and servants to the number of two hundred, all of whom perished—though it is supposed that some reached the shore and were murdered by the pirates. A vessel was sent from Halifax to inquire after them, and she also was wrecked. The Provincial Legislature at once took action. By recommendation of the Lieutenant-Governor, Sir John Wentworth, a sum was appropriated for the construction of suitable buildings, the vagabonds that infested the Island were driven off, and in 1802 the present Establishment was founded. In 1804 an annual allowance of \$1600 was voted for its support, and Edward Hudgson was appointed Superintendent, who, with a crew of four men, volunteered their services. His salary was \$400 and "found." This was the beginning; and the satisfactory result a saving of forty-one lives, and property to the value of \$9200, up to July of 1804. In 1808 sixteen persons were employed on the island. In 1812 the Commissioners reported that the Establishment was inadequate to effect the humane purposes for which it was designed, so frequent were the wrecks and so insufficient the apparatus for rescuing life and property.

But it seems that little improvement was effected for several years, for in 1825 came a second appeal—this time from the philanthropic Sir James Kempt, and addressed to the British Government. It proved effectual. During all this previous period the Establishment had been solely supported by the poor province of Nova Scotia, although the commerce of almost every nation reaped its benefits more than she. It is true that correspondence was opened with some Boston merchants soliciting their co-operation, but the parties differed as to terms, and nothing resulted. But in 1826, answering Sir James Kempt's appeal, the British Government appropriated \$2000, which increased the annual fund to \$3600. Henceforward improvement was steadily visible. The old Superintendent died, and Captain Joseph Darby succeeded him, under an able Board of Commissioners, composed of Sir Samuel Cunard, Captain Maynard (both now dead), and Jacob Miller. New apparatus was added, and in

1833 the staunch buildings now standing were erected. They are fitted up with all the modern life-saving appliances and conveniences for wrecked seamen, with ample provisions for months. As many as 300 wrecked people have been provided for together. In 1833 the Establishment was also out of debt for the first time. Its annual expenses often exceed the appropriation, but the deficit is made up by salvages and the produce of the Island. Wrecked materials are always sold for the benefit of the owners, and the salvages come out of the proceeds. The credits have sometimes amounted to nearly \$3000 in a single year. It is a natural question why great gains do not accrue where so large an amount of treasure lies buried, and why the Island people do not employ their leisure time in digging for hidden wealth? Echo answers, "Why?" One thing is certain, the Government will not permit a search, probably from fear of exciting the cupidity of the men. It is said that a certain vessel now lies buried in the sand which is positively known to contain a large amount of silver-plate; but it is doomed to remain unearthened forever, unless a gale of wind shall some day lay it bare.

No person is permitted to reside upon the Island without a license. Nevertheless, applications for this humane but dangerous service are numerous. It is a life of isolation and dull monotony, whose daily routine is varied only by a wreck, a chase after wild ponies, a scrimmage with the great Greenland seals that bask upon the bars, or the welcome arrival of the Government cutter, which periodically visits the Island to carry supplies and bring off wrecked persons. Here is a specimen leaf from Captain Darby's diary:

"June 6; morning. Wind S. S. W.; cloudy. No reports from the look-outs. Sent the men and horses to the wrecks to haul wood. Empty barrel came ashore at noon. Wind, evening, S. E."

A whole day's existence embraced in a meagre record of twice a dozen words—a waif upon the tide of life as empty and insignificant as the barrel that drifted ashore! So pass the long days or months, varying little. The live-stock have to be fed and cared for. There is the little garden to be tilled, with its patches of potatoes, cabbages, and turnips. The needed supply of wood must be gathered, hay is to be made in its season, and buildings to be repaired. Sometimes there is a fishing excursion, a search for cranberries, or a hunt for wild rabbits.

But at length an eventful era dawns. It is a calm day in June; a light breeze scarcely ripples the sea, which now wears its fairest guise. The long belt of surf that fringes the Island glitters dazzlingly in the sunshine, and the gulls and wild fowls are feeding far out to sea. Seldom has the picture so brilliant a setting. In the hour of this repose a signal flag is seen to mount the tall flag-staff of the Look out Station at the West End, and before it has fairly shaken itself to the breeze a responsive signal rises to the mast-head on the high hill at Head-quarters, nine miles away. There is a speck in the offing, and with a good glass the long-expected cutter is plainly seen standing in, with her red ensign flying at the peak. There is joy on the Island: and if one on board the vessel were near enough to distinguish objects, he would observe a commotion in the little hive on shore. Over the sandy hills and along the beach the outpost men are galloping their shaggy ponies in hot haste to Head-quarters, recalled by the signal-flag. There is bustle and preparation at the barn and boat-house and the whole community of men and animals seem to have turned out of doors at some unwonted cause of excitement. The dogs bark in chorus, and frisk and tumble in the sand, barefooted urchins halloo and scream; and a patriarch rooster even mounts a post and crows at an unusual hour.

To the stranger on board the cutter the landscape that gradually rises to view is one of singular novelty, and not without its beauties, while the whole situation possesses an absorbing interest. Petrels flit and hover in his wake, and dip into the surface of the fatal current that now flows peacefully in such well-dissembled mien. There is a sense of exhilaration in thus daring the dangers of the treacherous deep and braving its angry passions—an excite-

ment in the knowledge that a sudden change of wind will compel the vessel to claw off the coast at once, and run to sea for life; and while the nerves are strained to fullest tension the great sea-gulls come out from land and scream at his temerity. They wheel swiftly overhead, and seem enraged because the waves do not this time bear death and destruction upon their crests. An Island record shows that for a certain period of four months there were not five calm days; and another journal states that it has sometimes taken the cutter eight days to come to anchor; but now the calm serenity is real, not feigned. Gradually the line of low, dark hummocks, that have for some time lined the horizon, loom up and resolve themselves into high hills fringed by breakers. A zone of glistening surf beats in solemn monotone upon the dazzling beach as far as the eye can reach. Bare conical sand-hills, mottled with patches of green, or crested with rank, waving grass, rise up in most fantastic shapes, over and around which myriads of birds are hovering.

Passing the western extremity, new scenes are opened to view, the West-end Look-out and Flag-staff surmounting a grass-grown knoll, with the House of Refuge (most welcome sight to mariners cast away!) standing near at hand upon a plateau of waving grass that most delightfully relieves the barrenness of the adjacent landscape. And now, all along the foaming beach, came startling evidences in quick succession of the dangers and terrors of this dread locality—grim wrecks and whitening ribs of vessels washed by the waves, or high and dry, half buried in the sand. A melancholy interest attaches to every object; but there is no time now to indulge a contemplative mood. The cutter sweeps past a high cone that has obstructed the vision, and suddenly the tall flag-staff and crow's-nest at Head-quarters is opened to view, with its red ensign waving a welcome upon the highest hill on the Island, and a cluster of neat cottages brooding together at the foot, adorning a picture as peaceful as a mid-summer scene in a New England village. While the heart is fairly leaping with the joys of a new sensation the cutter rounds to, in five fathoms' water, a short distance from the shore, and before her anchor has firmly gripped the bottom, dark objects begin to dot the beach. Down gallop the ponies into the very edge of the surf, drawing a life-boat on a broad wheeled cart, throwing up the sand in jets as they run. It is but the work of a few minutes to launch; men breast the breakers, pull away, and board. Then follows many a rough greeting and hearty hand shaking in the style of good old-fashioned friendship, and such as only those can appreciate who have been shut out from the world for months and seen no faces but their familiar own. There are eager inquiries for news from the Island and shore, and a demand for letters and papers. These are in part hastily satisfied, and then precious little time is required to tumble into the boat and pull lustily for shore.

The graceful cutter rapidly drops astern, sitting like a duck on the water, with her anchor apeak, and her mainsail hoisted and shaking, ready to run to sea at a moment's warning. On either side bullet-headed seals bob up and down in the waves or frisk in the foam just ahead, and as the boat rides in on the mounting crest of a comb, under a long, strong pull of the oars and the steady eye and sure arm of the steersman, the novice holds his breath hard and gripes the thwarts nervously when the keel strikes the sand high up the beach, and the waters seethe, struggle, and recede. In an instant the crew are overboard holding hard the boat on either side against the reflux wave. There is a momentary pause, another billow mounts high astern, breaks, and surges upward, drenching the crew to the skin, while with a vigorous run they bear her high up out of the breakers. But the more dainty passenger steps dry shod upon *terra firma*, and joins the procession of men and horses which by this time are dragging the boat back to Head-quarters.

Toiling through the deep and yielding sand they plod slowly through a ravine, and presently turn into a broad, grassy valley, sheltered by lofty hills which completely shut them in from the ocean. Here, ranged around an irregular square, are the several buildings of the principal station—the comfortable house of the

Superintendent, where a hospitable welcome always awaits the stranger, be he casual visitor or castaway; the Sailors' Home for shipwrecked crews; substantial quarters for the men; two or three large stores and boat-houses; the blacksmith's shop, oil-house, and outbuildings. There is also a well-stocked barn and barn yard, where one may hear the low of kine and the cackle of domestic fowls. There are pigs and horses, and a garden neatly inclosed. And conspicuous over all, on a neighbouring hill, towers the tall flag-staff and crow's-nest, from which the entire Island can be scanned at a glance in clear weather. Just in front of the little hamlet, and down a sloping beach, a boat lies tranquilly at anchor on the bosom of a lake which stretches away to the right and left for fifteen miles, in varying outline of shore. Wild fowls are floating on its surface, and here and there a bearded seal may be seen sporting. So sudden and complete is the transition from the former scene that one might fancy himself in some sequestered inland vale, but for the eternal roar of the surf dinning in his ears.

The various buildings of the Establishment are constructed of thick plank to resist the violence of the storms. Some are neatly painted, and there is an air of snug and cheerful comfort within and without; yet every where, on chimney-piece, door-post, and gable, some mute waif from the sea is ever at hand to remind one that this Island is the drill-room of storms and the region of perils. In the Superintendent's house is a fine library of five hundred volumes, in great part the gift of the philanthropic Miss Dix who once visited here; but there is among them many a volume whose stained leaves and shrunken covers show that they are offerings from the sea. A carved figure-head over the entrance is the sole memento of some nameless disaster. Even the very wood-pile consists of wrecked timbers and planks bristling with spikes and bored with many a tree-nailed hole. In the boat-houses are metallic life-boats, with mortars and lines, hawsers, and signal-guns. The store-houses contain provisions, packages of clothing, and other requisites for seamen. Here, too, is the home for Sailors, and on its gable end is a board from which beams forth a single word of constant welcome and encouragement, and that word is "Hope."

While mind and eye have been engaged in contemplation of these novel scenes, the shadows have crept far down the hills into the valley. The sky is ruddy in the west, and a day of unusual calm draws near its close. The stores have been safely and laboriously landed from the cutter, and the men lounge listlessly about the quarters. Presently the peal of a wrecked ship's bell rings out clear and full, summoning the household to prayers. The Superintendent takes position behind an old capstan in front of "Government House," and prepares to read the service, while the hardy wreckers, bronzed and weather-beaten, gather round in quiet decorum; and many an attentive eye regards the portly form of the old "sea dog" as he repeats the lesson of the day. The picture with its surroundings is sublimely characteristic, but none can paint the steady beat of the surf falling in mournful cadence upon the shore, or the damp, salt odor of wrecks with which the very atmosphere seems tainted. The old man is dead now, but many will often recall to mind the grim and rugged features and iron-gray locks of him who officiated at these little seasons of devotion, or the fashion with which, with pardonable vanity, he was wont to decorate himself with the medals and rewards of worthy service which he had so justly won.

With the dawn of day all is bustle and busy preparation. Some stores have to be taken down the lake to the outpost station at the south side, three miles away. The teamster has hitched three scrubby ponies into a clumsy wagon with tires full eight inches broad, and when the load is on he drives out into the shallow lake, axle deep, to where a quaintly-constructed boat is waiting to receive the cargo. If the wind be fair the journey to the station is easy. Here lives Solomon Knox and family in solitary independence, and here, as at other stations, is the inevitable wood-pile of planks and spars standing on end; here is Solomon's

barn and garden, and here the flag-staff and look-out. Solomon is one of the most sagacious and daring boatmen ever employed on the Island. His life is a history of hair-breadth escapes and acts of noble bravery, to some of which well-prized medals bear testimony. There is nothing of special interest here or by the way, though the varying shores of the lake are ever attractive to the eye of a stranger.

"Lake Wallace" is one of the many remarkable features of Sable Island. The Island itself is bent like a bow, and the lake follows its trend for half its length, and occupies one-half its breadth, which in no place is more than a mile and a half wide. Its greatest depth is fifteen feet. In some localities, on the south side, it is separated from the ocean by a ridge only 200 feet wide, and the sea often breaks into it in stormy weather. Like the land, it has undergone many changes. When it was first discovered it had no outlet. Many years afterward an inlet was formed by a breach of the sea, which made it a commodious harbor for small craft; but another tempest closed it again, and shut in two American vessels that had run in for shelter. In 1811 it was almost filled up by a gale blowing the sand-hills into it. At the same time a heavily laden boat was blown entirely out of the water! At present it affords fine facilities for transporting goods, and saves much heavy hauling by wagon. Eels and flounders abound in its briny waters, and in places it is almost paved with luscious and juicy clams.

It has now been observed that the history of the Island has been marked by varied striking eras. Since the period of its discovery it has been occupied in turn by explorers, convicts, trappers, fishermen, pirates, and wreckers. The huge walrus, which centuries ago held royal sway throughout the little realm, at length gave place to the black foxes, which some mischance had probably set adrift from the main land on floating fields of ice and landed there. These afterward disappeared, and herds of wild cattle and swine roamed its narrow precincts. The former became extinct about the middle of the last century, and in 1825 the swine were exterminated. A rigorous winter destroyed the greater part, and the balance fell victims to knife and bullet; and when the last gaunt porker received his *coup de grace* the Island was rid of a pest and abomination, for the taste of human flesh had made them ghouls, and they roved from hill to shore holding horrid revel on corpses which they rooted from the sand. For the last hundred years or so the wild ponies, whose name is famous, have in turn held and occupied—hardy, diminutive scrubs, whose shaggy manes cover head and shoulders and sweep the ground. Wild rabbits, too, abound, and brown rats swarm in prodigious numbers, which are constantly increased by accessions from the sea. After storms they are often seen coming ashore by scores, clinging to planks and drift-wood. Anent the rabbits, there is a story of a certain Snowy Owl (*Strix nictea*) which, having lost his reckoning, happened upon this Island. Most fortunate misadventure! That day the gentleman dined on rabbit. The delicate tid-bit pleased his palate; he tarried the next day, and when he had thoroughly cultivated his taste, he departed. Men thought, and the rabbits hoped, that he had gone "for good," but after a lapse of three days he returned with a full hundred of his kinsfolk. What wily words he used to lure them to that southern latitude, the record states not, but that the reward proved equal to the inducement is evinced by the fact that this denizen of the arctic zone is often seen nowadays watching beside a rabbit-burrow in the heat and glare of an August sun, with his head all furred and feathered for a polar campaign.

Contemporary with these eras in animal life are the changes which the Island itself has undergone. Portions have sunk from sight, and new land has risen from the sea; breaches have been made and inlets closed; hills have toppled over and dissolved, and others grown up like mushrooms; the lake has been emptied and filled again; new things have been buried from sight and old ones disinterred. It has no fixed figure or foundation, but, like some half-decayed and sea-worn waif upon the shore, it lies limp and helpless, the sport of the winds and waves, tossed by the surf and beaten into all kinds of fantastic shapes.

Many a toil-worn denizen of the heated metropolis, released for a fortnight's holiday, has felt his nerves thrill with the excitement of a canter along the breezy beach at Long Branch; he will stand on the cliffs at Newport, and grow romantic when the billows thunder at his feet or a gale comes careering in from the sea on the crests of the waves; a barnacle-covered keelson bleaching on the sands of Fire Island entrances him. But if he would feel the acutest sense of exhilaration of which soul and body are capable—if he would experience in some degree the thrilling consciousness of perfect freedom which the wild mustang enjoys—let him mount a swift-footed pony and give her stride along the hard, gravelly shore of Sable Island, where the surf is deafening, where wave following wave seems to chase him as he flies, and the foam darting up the beach seizes his horse by the hoofs, struggles for an instant, and then wriggles back baffled, hissing with rage and vexation. Ghostly wrecks, posted like skeleton sentinels for many a mile, grin and gape at him. Huge beach-clams, buried in the sand, spurt up their jets before him. Sleek, glossy seals, that have lain basking in the sun or piled like ledges of rock high up the sloping shore, stare an instant with their large, wondering eyes, and then taking alarm, flap and flounder toward the water pell-mell in ridiculous hurry and confusion. Pony catches his rider's spirit of mischief, and charges on them as they tumble into the surf, cutting off the retreat of some, leaping the slippery backs of others, separating whelps from their dams, and creating general consternation. Up and down in restless circles the anxious mother swims until she recovers her offspring, and then sculls off joyously with the infant on her back, holding hard by its tiny flippers—more fortunate now than when the ruthless wreckers make their raids from the stations and club them by the score for the sake of their skins and oil.

Now drawing rein for a moment's rest, pony ambles leisurely along, occasionally startling a shelldrake from its haunts within a wreck, or driving before him a timid ringneck or brace of peeps as they run swiftly along the beach. At intervals a brackish rivulet crosses the path, or a little bay makes up into the land; and anon a toppling sand-cliff, which the waves have undermined, and whose edge is overhung with matted roots, threatens to bury the passer. Perchance on the very summit of some distant cone a wild stallion is seen perched, standing sentinel, his clamsy figure outlined in bold relief against the sky.

All this is grand, novel, and picturesque, and the attendant feeling of loneliness only adds zest to the enjoyment. The salt air invigorates, and the sea-breeze cools the brain. And so by this time we are ready for another scurry over the beach, and a second charge into another herd of awkward seals. Then, wheeling abruptly and diving into a gully around the base of a cone, we lose sight of the ocean in an instant, and discover wondrous change of scene. On through wavy valleys, blossoming with the wild rose, the fragrant lily, and the china aster, and strewn with strawberries, blueberries, or cranberries, which may be gathered by the bucketful, over grassy knolls round and smooth as a haystack, now surmounting the dividing ridge of the Island, when the ocean on both sides may be seen at a glance, and anon skirting the verge of some precipitous cliff, where the tall grass sweeps the right hand pommel, while the left stirrup goes dangling over the dizzy edge, with the ocean thundering seventy feet below. Betimes a tawny rabbit starts up on end, takes an observation, and with a hop, skip, and jump, and a flirt of his tail, darts into a wild-pea patch. Anon dense flocks of wild-fowl rise from the long grass with a cry of alarm, wheel rapidly through the air, and then subside. All along the north side of the Island are limpid fresh-water ponds, girt with rank grass, where ducks and water-fowl breed by myriads. The ground is strewn with nests, and as the chance passer surprises the community from their courtship or siesta, thousands fill the air, circling over the surrounding hills in rapid flight, wheeling out to sea, or hovering directly overhead, screaming their anger at the intrusion; and as the horse's hoofs crunch mercilessly into eggs and unfledged young, they swarm and pursue like bees, filling the air with their cries, and dealing stinging blows with their beaks.

Horse and rider are both fain to join in ignoble retreat, and whip and heels do double duty until the shrieking multitude give up the chase.

(To be continued.)

Wild Kaffir Life and Wild Kaffir Intelligence.

By ROBERT JAMES MANN, M.D., F.R.A.S., Superintendent of Education in Natal.

At page 188 of the October number of the *Intellectual Observer*, it is stated that the 10,000 "Natal Kaffirs" of 1836 have grown into 200,000 Natal Kaffirs in 1866; and the inference is drawn that the native race in that colony is increasing in numbers rapidly, and not dwindling away, under the presence of British enterprise and rule, and that therefore the question of the capabilities of that race is an important one. It may be necessary to explain that the Natal Kaffirs thus alluded to were Kaffirs who acknowledged English authority, and came within the sphere of civilized observation at even that early period, or very soon afterwards. The Kaffirs spoken of by Mr. Fynn as "Natal Kaffirs" were natives who had gathered round his settlements at the Bay. The rapid increase in numbers was, in all probability, due to the addition of more and more resident clans to the white man's following, as well as to the return of exiles, and the influx of refugees. The Secretary for Native Affairs in Natal has recently ascertained by direct investigation, that there are at the present time forty-three distinct clans, or tribes, within the colony, which were aboriginal tribes of the district, and which have never dwelt elsewhere, excepting for any brief period that they may have been compelled to remove themselves into concealment during the Zulu invasion and occupation. There are also twenty-two other native tribes in Natal, of which nine are composite and made up of a fusion of the fragments of aboriginal tribes, and of which seven are Zulu tribes which have removed themselves from the territory that is still under Zulu rule.

Before the rise of the Zulu power these aboriginals were neither warlike, nor aggressive. Disputes occasionally arose, both between families and between tribes; but such disputes were always speedily settled. There was no attempt at military organization. The several tribes were, for the most part, on friendly terms, and intermarried with each other. They possessed cattle, sheep, and goats; and cultivated the ground, and drew the principal portion of their subsistence from their gardens. They were, indeed, to a considerable extent, what the Natal Kaffirs are now seen to be in the colony. The notion of Zulu-Kaffir ferocity, which has become prevalent in late years, does not properly belong to these people. It has come from an accident in their history: the development of the Zulu military despotism under Chaka, which has been already described.

The chiefs of these aboriginal tribes ruled as patriarchs, and possessed absolute and uncontrolled power over the lives and property of their people. There was no other check to this irresponsible power than that which arose from the necessity, even in this state of affairs, of conciliating public opinion.

At the present time the several chiefs of the sixty-five tribes of Natal Kaffirs retain only the shadow of their old authority. They are allowed to settle disputes between their people, and to punish petty offences, but all criminal cases are now tried by the magistrates and the Supreme Court of the Colony; and even in cases adjudicated by the chiefs, an appeal can be made to the magistrates, to the Secretary for Native Affairs, and to the Lieutenant-Governor in Council. All supreme power has been transferred from the petty chief to the proper head of the State, and the chiefs now only consider themselves lieutenants, responsible to the Governor for the management of their tribes. They can no longer assemble their people in arms, unless under the order

of the Governor. The attempt has been made, and with a considerable measure of success, in Natal, to turn the natural and inherent sentiment of respect for the patriarchal chiefs into a means of orderly government. By leaving a show of authority, and a harmless jurisdiction in the hands of the chief, his dignity has been saved from the evil effects of rude shock, while, at the same time, he has been made the direct link which connects his people with the institutions of the Government. The tribes themselves are divided into territorial districts, villages or kraals, and families. The chief presides over the tribe with a head-man, or Induna, under his authority. Each territorial division of the tribe has also its own proper head-man, or Induna; and there are also heads of groups of kraals, heads of kraals, and heads of families. Each head is practically responsible to the one immediately above him; and in the ascending series the chief of the tribe is responsible to the resident magistrate of his county; and the magistrate to the Secretary for Native Affairs, who is the head-man, or Induna, of the Governor, *par excellence*, the great chief. This organization is so complete, that any order emanating from the Governor can be at once made known to every native hut in the land, although the communication has necessarily to be made without the intervention of written or printed documents.

The huts of the native Kaffirs are nearly always grouped together into villages, which are technically named "kraals." The huts are planted upon sloping ground, whence the water can run away easily, and are ranged in circles larger, or smaller, according to the number that has to be accommodated. The head of an ordinary family will have perhaps from six to ten huts in his kraal. The chief Ngoza's kraal near Table Mountain has some eighty or ninety huts in it, and is a pretty long walk across. Old Umpana has a royal kraal at Nodwengu in Zululand, containing six hundred huts arranged round the circle in triple ranks. The huts are fenced in with stakes and wattle, which thus form an outer wall to the kraal. But there is also within the circles of huts, an inner wall of similar construction, which encloses a kind of court-yard, that is entered by a single opening, and that is employed for herding cattle at night. The huts thus stand in a clear, ring-shaped enclosure of their own. The interior space of the kraal of Ngoza, is so spacious that upon one occasion, when it contained the wagons and travelling oxen of the writer, and of the Lieutenant-Governor, with the tents of their encampment, in addition to the very large herd of oxen belonging to the chief, it still looked like a large and nearly empty field.

This structure is not very unlike a squat bee-hive, large enough to hold men, instead of insects. It is unquestionably a rude affair, when compared with the dwellings of an older and higher civilization. But there is another point of view from which it may be contemplated. Taken as a structure made almost out of nothing, by hands that are almost innocent of instruments, it is really a surprisingly ingenious and complete contrivance. In order fairly to understand this, the reader must conceive a man, just in the state in which nature has made him, planted down on a piece of wild pasture, with nothing but a rudely-fashioned lance in his hand, and told that he must fabricate there for himself a structure that shall at once be both clothing and house, and that shall efficiently shelter him through day and night, through storm and sunshine, through summer and winter. If the reader himself could be made the actual hero of the situation, he would be better able to comprehend what the task is that the wild Kaffir has accomplished, when he has made this straw house, than he can be without the experience. In constructing the hut a frame-work of wattle is first bent into a hemispherical shape. A thatching of dried grass is then laid over the wattle, and bound compactly down upon it by fibres. A low arched door, very much like the bee's door, is left at one point, through which passage is made horizontally, either for ingress or egress. The correct position is something even more abject than that which is familiarly known as on all fours. This doorway is closed

at night by a frame of wicker-work. The floor is a smooth, hard, and almost polished pavement, constructed of beaten earth and cow-dung. If the hut is of large dimensions, it has four or six posts inside; but if of small size, these internal supports are not used. There is a saucer-like and rimmed depression in the middle of the floor, to serve as a hearth in cold weather, and the smoke and air permeate the grass with just sufficient freedom to secure ventilation, but not one drop of water enters from the sky. Round the walls, in the interior, the scanty Lares and Penates of the master, consisting principally of beer pots, milk pots, mats, skins, and shields and assegais, are distributed. Upon the floor with rush mats unrolled beneath them, the dusky household squat to gossip by day, and lie outstretched to sleep at night. Each hut affords sleeping-room for several individuals. The chief, or head-man of a kraal has a principal hut for himself, where his visitors come to gossip and feast with him, and also a hut for each of his many wives, whose families dwell therein with them until the children attain a certain age. In most kraals there is also a hut set apart for the use of young men.

The Kaffir is eminently a creature of sunshine. In cold or wet weather he keeps himself close within the shelter of his hut, and gossips and doses away his time. When the sunshine is genial and warm he sits outside squatting upon the ground, surrounded by his dogs and his children, and fashioning some article for household use, for employment as a weapon, or for personal adornment, or with a small shield upon his arm, and a bundle of short light assegais, and a knob-headed stick in his hand, he strides off over the hills bent upon some business of gossiping or feasting. The cattle are principally tended and herded by the young boys, roaming free over the pastures by day, and being driven into the inner enclosure of the kraal for protection at night. In some convenient nook on a hill side, or in a sheltered ravine near to the kraal, a space is rudely fenced in as a garden, and here crops of the Indian corn, the millet, the sweet potato, and occasionally of the pumpkin, a wild sugar-cane (*Imphee*), and wild hemp, and tobacco for smoking, are grown. The ground of the garden is broken and tilled by the women, working with a curious kind of hoe, now imported largely into Kaffir lands for native use. The Indian corn and millet are produced in large quantities, and ordinarily form the staple of a Kaffir's food. The grain is stored, after harvesting, in pits dug in the ground, with only a narrow opening left at the top, which is carefully and skilfully closed by placing a flat stone over it, for protection against the rain. The food is prepared by the women, sometimes aided by the children and young lads. The Indian corn is roasted, when green, upon the cob; when ripe the grain is crushed by hand, between stones, and the meal converted into a kind of porridge. The milk from the cows is chiefly consumed in a half sour and clotted state by the children. The millet is ground between stones, and made into a sort of infusion or decoction, which undergoes spontaneous fermentation, and so becomes converted into a liquor that is known as Kaffir beer (*Tywala*). In its choicest state, as it is found in the cellars of distinguished men, this liquid is limpid and clear, and possessed of considerable inebriating power. It is unquestionably very nourishing. In more common-place households it bears a considerable resemblance to a mixture of bad gruel and table beer. The beer drinking is the most ordinary form of native carouse. When there is a good brewing ripe, the men assemble and drink the liquid in rotation out of capacious gourds or pots, made of closely and thickly-woven grass, or more rarely of hardened clay. The beer is kept during fermentation in these vessels, which stand in the interior of the hut, opposite to the doors, something like the jars of the Forty Thieves, in a long row. The milk is held in similar vessels. The beer pots and milk pots are carried by the women and girls, very skilfully balanced upon their heads. A jovial spark, off on a visit, may be sometimes met, with a string of women or girls, each with a full beer pot balanced on her head, behind him. The water for household use is brought in by the women from the nearest stream, in gourds.

Under ordinary circumstances the gardens furnish a fairly ample supply of food for the daily wants of the household. But occasionally from some accident of season, or from some other cause, the supply runs short, and periods of great privation have to be endured. One of the first benefits which the barbarian reaps from the neighbourhood of civilized men is the alleviation of this unavoidable misery of barbarous life. So soon as he has white neighbours within reach of his kraal, he is pretty sure to have some additional resource to draw upon in seasons of dearth and famine. In olden times, and still in remote districts, the Kaffirs occasionally die of famine in great numbers; and those who survive subsist to a large extent, even for weeks at a time, upon wild roots dug up out of the ground.

Animal food, among the Kaffirs, is entirely a matter of carouse and feasting. If a distinguished visitor comes to a Kaffir village, or kraal, the principal man makes a present to the visitor of a goat, or of an ox, as the case may be. The animal is graciously received, and turned over to the attendants of the guest for slaughter: some choice part is retained by the guest, and the rest is handed over to the inhabitants of the kraal, to be eaten in honour of the visit. Animals are also killed and eaten upon certain other ceremonial occasions, when set invitations are given, and set feasts made. Upon such occasions, if it is an ox that is to be eaten, it is taken near to the entrance of the kraal, and stabbed behind the shoulder with an assegai, wielded by some expert hand. A fire is kindled near, and almost before the animal is dead it is lown to pieces, and the selected portions being removed, the rest is divided in what seems to the uninitiated observer to be a sort of scramble, but it is in a scramble that has in itself some underlying order of accepted etiquette and custom. The fragments of meat are just laid for a brief interval upon the embers of a wood fire that has been prepared close at hand, and are then rapidly transferred to the throats and stomachs of the feasters. The eagerness for the unusual, and rare, gorge is far too keen to allow any refinement of culinary art to be either learned or exercised. A couple of hours is pretty well enough, in Kaffir handling, for the conversion of a living ox into a remnant of stripped skin and bare bones.

Well-to-do Kaffirs rejoice in a multiplicity of households. In the kraal of a chief, or of a wealthy patriarch, each hut near to his own, contains a wife and that wife's offspring, and the more distant huts are appropriated to the other members of the family or clan. Polygamy is an institution among the Kaffirs, that is intimately and inseparably interwoven with the privileges of wealth and the rights of property, and that will therefore be very difficult to eradicate. The Kaffir has strong natural instincts of affection for his wives and his children, as a rule; but the peculiar position which he holds as a polygamist, of necessity introduces some relations and characteristics into his domestic life and social history that are not calculated to awaken interest or respect. In all probability some of the incidents and occurrences that arise out of these relations are but imperfectly understood by European censors and critics. Kaffir men do not acquire wives until they are able to pay a stipulated number of cows to the father of the bride for the privilege. These cows are differently viewed by the different authorities who speak of Kaffir practices and customs. By some they are held to be an actual purchase price paid for the girl. By others they are considered to be a sort of deposit made in her interest to her family. In case of a wife leaving her husband within a limited period, he is allowed to have some claim against her parents for cow-restitution; but matters are held to be in some way changed when she has bestowed female offspring upon her husband. In some instances a family of girls confers a measure of freedom and independence upon the mother, because the value of the cows, price or deposit, is thus restored. At any rate the women are looked upon as possessing material and substantial value in a household, because they bring girls, who in due time turn into cows; and because they perform hard and productive drudgery. The children of any particular wife

speak in common of all the other wives of their paternal parent as "mothers;" and, as a general rule, there is a surprising amount of harmony maintained in the household under the circumstances. According to the old and time-honoured custom of the Kaffirs, the father's property in his daughters was so absolute and complete, that his sole will determined all matrimonial arrangements, and he possessed, and not unfrequently exercised, the right of punishing a refractory child who refused to obey his commands with death. Since the subjection of the Kaffir chiefs to British supremacy and rule, all coercion of girls to an unacceptable marriage has been generally forbidden, and in any case where an appeal is made against parental authority upon this ground, the magistrates discountenance, and even punish, its exercise. It is the intention of the colonial government, at the earliest possible opportunity, to introduce some arrangement which shall make a full and clear declaration of a woman's personal consent indispensable to the legality of a native marriage. In the meantime two very important alterations in the old Kaffir practice have already been brought about. Every marriage now consummated is held to be irrevocable and final, so far as the parents of the woman are concerned; and a widow is now free to marry any one that pleases her without reference to the opinion or will of her natural guardian. These important modifications have been made by the Lieutenant-Governor, acting in his capacity of supreme chief, and have received the general assent of the natives on the ground that they admit them to be just and reasonable. It is obvious that some caution and judgment is required in the introduction of changes that are directly aimed at the root of a practice which is intimately bound up with the customs, habits, ideas, and laws of a race, and which the people believe to have been created with them.

Mr. Crawford considers the negro to be a very unmanageable and unpromising piece of humanity. He remarks of him that he has no literature, and no architecture; that he cannot tame elephants; that his religion is nothing but witchcraft, his wars merely the incursions of savages, and his government only a brutalized despotism. Without at present meddling with the inferences which Mr. Crawford draws, it must be admitted here that these allegations apply as accurately to the Kaffir as they do to the pure negro. It is a very remarkable fact in human history, that the Kaffir, with such inherent capabilities, should have remained utterly savage so long; that even, after seeing with his own eyes the wonders that are worked by his white cousins, in matters that come so immediately home to him, as flocks, herds, and food crops, he should still be willing, if left alone, to lead the indolent, unproductive, and unprogressive life that has been described. Whatever may be the case in regard to the principle that Sir S. W. Baker enunciated so prominently at the last meeting of the British Association for the Advancement of Science, namely, that all negro races would infallibly fall back into barbarism, if left to themselves, there can be no doubt, at any rate, that these races will not advance out of barbarism, if so left. But here there occurs one consideration, that perhaps has not yet received all the attention it deserves, and that really carries with it much important and practical suggestion. Mr. Crawford argues, "The negroes are uncivilizable, or nearly so, for, after years of social existence, they have no literature." May it not be that the negro races have not advanced into civilization *because* they have no literature? A race which is incapable of originating a literature, may, nevertheless, be quite capable of being deeply and permanently influenced by a literature that is brought to them from without. This literature may indeed ultimately prove to be the very panacea and influence that makes progress possible and advance permanent. It is by no means an unheard of thing in human history, that races have received and benefited by a written and recorded language, although they had failed to contrive the instrument for themselves.

It is a very curious, and certainly a most noteworthy fact, bearing indirectly but instructively upon this view, that the wild

Kaffir, even when quite removed from the influence of white men, and from civilized appliances and practices, has, nevertheless, an education of his own. This becomes strikingly apparent to even the most careless and most casual observer, when the young men and the old men of the race are compared. The young men are all wild, impulsive, restless, and full of savage fire, which generally burns itself out in howling, dancing, boasting, and laughing, but which is quite capable, as proved in Chaka's experience, of being turned to less desirable account. The old men are all quiet, astute, thoughtful, and full of "wise saws and instances." The countenances of the young men are commonly savage and furtive, even when good humoured. The countenances of the old men are constantly dignified, grave, and intelligent. In Zululand, at this present hour, the young men are nearly all turbulent, quarrelsome, boastful, and aggressive; the old men are nearly all quiet, peaceful, and full of admiration and friendship for their Dutch and English neighbours. There is a very simple and obvious reason for this difference. The young men are all of the raw material of barbarism; the old men are all *educated*! The education of the Kaffir race is talk. The remark of Sir S. W. Baker and others, that the negroes acquire their full intellectual development at a very early period, and are incapable of subsequent advance, certainly is not true in regard to the *Natal* Kaffirs. The wild Kaffir leads a life of indolence, and puts the amount of drudgery that is requisite to provide for the absolute essentials of this indolent life upon his women. But he also leads a life of *gossip*; he talks incessantly, and much of his talk concerns the doings of his relatives and neighbours, and the general relations of his social state. When he walks forth over the sunny hills to pay his visit to some neighbouring or distant kraal, he carries with him matters that have to be made there the theme of patient discussion and grave deliberation. It is not possible for men to gossip through long years without doing some thinking as well, and, wherever there is thinking, there is also intellect and progress. But, in the case of the wild Kaffir, the progress is individual, and not collective. Each man has to go through the same process for himself, and the result dies when the man dies. Tradition may carry on some very small shadow of the sum total and gain to the next generation, but the main bulk of the personal advancement and experience must disappear. And can it be said that it would not be the same, even in England, if there were no permanent and recorded accumulation to be transferred on from generation to generation? if there were no books and no formal teaching? Men may say that the negro races cannot be raised much, or at all, above their present stand points, and they may be right, but, at any rate, an appeal necessarily lies from such judgments to events and time; and, not until it has been seen what the modifications are, that a formal, a designed, and a well considered training and education can introduce, can the question of Kaffir civilization be held to have received a practical settlement. It yet remains to state, indeed, that something has already been actually achieved in Natal, which does give promise of a higher capability in the native race than the theory of unprogressive stagnation and ready retrogression would allow. This is reserved for another opportunity.—*Intellectual Observer.*

Oldest City in the World.

Damascus is the oldest city in the world. Tyre and Sidon have crumbled on the shore; Baalbec is a ruin; Palmyra lies buried in the sands of the desert; Nineveh and Babylon have disappeared from the shores of the Tigris and Euphrates. Damascus remains what it was before the days of Abraham—a centre of trade and travel, an island of verdure in the desert, a "predestinated capital," with martial and sacred associations extending beyond thirty centuries.

It was near Damascus that Saul of Tarsus saw the light from heaven "above the brightness of the sun;" the street which is

called Straight, in which it is said "he prayeth," still runs through the city; the caravan comes and goes as it did one thousand years ago; there is still the sheik, the ass and the water-wheel; the merchants of the Euphrates and the Mediterranean still occupy these with the "multitude of their wares." The city which Mahomet surveyed from a neighboring height and was afraid to enter, because it was given to man to have but one paradise, and for his part he was "resolved not to have it in this world," is to this day what Julian called the "Eye of the East," as it was in the time of Isaiah the "Head of Syria."

From Damascus came our damson, our blue plums, and the delicious apricot of Portugal, called damasco; damask, our beautiful fabric of cotton and silk, with vines and flowers raised upon a smooth, bright ground; damask rose introduced into England in the time of Henry VII.; the Damascus blade, so famous the world over for its keen edge and remarkable elasticity, the secret of the manufacture of which was lost when Tamerlane carried off the artists into Persia; and that beautiful art of inlaying wood and steel with silver and gold—a kind of mosaic and sculpture united, called damaskeering, with which boxes and bureaus and swords and guns are ornamented.

It is still a city of flowers and bright waters; the streams from Lebanon, the "rivers of Damascus," the "rivers of gold" still murmur and sparkle in the wilderness of "Lyria Gardens."

New York Teacher.

The Teacher's Reward.

When Jupiter offered the prize of immortality to him who was the most useful to mankind, the court of Olympus was crowded with competitors. The warrior boasted of his patriotism, but Jupiter thundered, the rich man boasted of his munificence, and Jupiter showed him the widow's mite; the pontiff held up the keys of heaven, and Jupiter pushed the doors wide open; the painter boasted of his power to give life to inanimate canvas, and Jupiter breathed aloud in derision; the sculptor boasted of making Gods that contend with the immortals for human homage, Jupiter frowned; the orator boasted of his power to sway the nation with his voice, and Jupiter marshaled the obedient host of heaven with a word; the poet spoke of his power to move even the gods to praise, Jupiter blushed; the musician claimed to practice the only art that had been transplanted to heaven, Jupiter hesitated; when seeing a venerable man looking with intense interest upon the group of competitors but presenting no claims, "Who art thou?" said the benignant monarch. "Only a spectator," replied the gray-headed sage, "all these were my pupils." "Crown him, crown him!" said Jupiter. "Crown the faithful teacher with immortality, and make room for him at my right hand."—*Exchange.*

EDUCATION.

School Drill an aid to Volunteering.

A SHORT ADDRESS, BY REV. J. S. HOWSON, PRINCIPAL OF THE COLLEGIATE INSTITUTION, LIVERPOOL.

The permanency of the Volunteer movement depends largely upon arrangements with which the Schoolmaster has little concern. But it can hardly be doubted that the systematic practice of drill in our large Schools will subserve this great national cause in a very real though unpretending manner. It was said by Colonel Wilbraham, on the occasion of distributing prizes, that "the introduction of drill into our public schools promises to form a valuable element of perseverance in the Volunteer movement," by enabling boys "at an age when every manly exercise is a pleasure, to get through that part of drill which, in after life, becomes more difficult and irksome, and which probably deters many from joining the ranks of the Volunteers." There may, therefore, be some advantage in briefly describing the arrangements which have been adopted in a case where the practice of School Drill has been successfully maintained. In many

schools the introduction of drill is very recent. With us it has been a part of our regular system for many years.

School Drill, enlivened by the Volunteer movement, is a help towards the solution of an important problem which presses on schools situated in large towns: viz., how to make sure there of physical education and good employment of holiday time. It is, indeed, most important that Drill should not be substituted for Cricket and Football. But in schools, where the pupils are drawn daily from homes scattered widely over a large population, it is not always possible for all to be present at these games on a holiday afternoon. On the other hand, all have the benefit of the Drill. Where green fields are distant some compensating provision for health and bodily energy is doubly important. And this should be added further, that this exercise is not exclusive, but associates together the older and younger pupils in cheerful combination.

Some persons have feared lest this interest in military exercises should excite in our boys a passion for military life. I am inclined to think it is likely to produce precisely the contrary effect. The Volunteer movement itself is strictly defensive in its aim, and its details are bound up with the ordinary occupations of men who live at home. And exercises of this kind give a relief, as well as a discipline, to the natural restlessness of boyhood. A well-drilled school-boy will usually subside, on leaving school, into a common sense view of War and Peace: and if by these methods the few are discovered, who really do possess military talent, the country will be the gainer.

Colonel Wilbraham, C. B., who reviewed the boys of the school said, in the course of his encouraging remarks, that he hoped and trusted that this pursuit, "so far from interfering with study, would tend to promote it, because he felt sure that the habits of discipline and obedience which the boys had to learn would stand them in good stead in the school-room;" adding, that "at Oxford the Volunteer movement, so far from doing harm, had done a great deal of good." In allusion to this school review, Col. Wilbraham again said, on occasion of the distribution of the Hightown prizes in St. George's Hall, on Nov. 12th, "I am sure the Schools themselves will be as much benefited through this instruction as the Volunteers; for the boys cannot fail to carry into their hours of study those habits of discipline and obedience which they learn on parade." To which I may add the remark of the Rector of Liverpool, on occasion of the swearing in of the Engineers, on the 20th: "We wish to bring up the Collegiate boys in habits of order and discipline, and we believe the drill will have a most beneficial effect, both upon their habits and on their health."

Helps over Hard Places.

To know when to give a pupil assistance, and when to refrain from it, is one of the most perplexing of a teacher's problems. As a general rule, nothing should be done for a pupil which, by proper exertion, he can do for himself. But then how is it to be determined that he has made the proper exertion? It certainly is not well to permit him to flounder on day after day, and week after week, in a very slough of difficulties, with no ray of light to guide his way out until he is ready to give up in despair, under the plea that he is to rely on himself and do his own work. The teacher's place is not to cut the knot of difficulty, but to place in the pupil's hand the end of that thread, which, if faithfully followed up, will unravel it. It requires rare tact and penetration on the teacher's part to determine exactly where the pupil's trouble lies, and what is the exact remedy for it. But it was not of help in general, but of certain kinds of help, which are always objectionable, that we wish to speak.

There are well-meaning, hard-working teachers who, from their extreme good nature in giving assistance to their pupils, never accomplish any thing. We well remember one of this kind who had the rather difficult task of developing our intellect in its period of very young *veal*. We had tried to "work a sum" in the Arithmetic of the venerable Pike (whose name we cannot mention without awe to this day) until we were "—not a very long period by the way,—and had taken it up to the "master" for assistance. 'Ye ancient pedagogue' pulled his glasses down from his forehead to his nose, took the slate, worked the sum, and handed the slate back to us without a word of explanation. We looked the work over pretty carefully, rubbed it out, and resolved to give the example another trial. We did

so, but with no better success than at first. Reluctantly we were compelled to ask aid the second time. The master looked at us with surprise, if not with some irritation. "Why," said he, "I have done that sum for you. Go on to the next." And that was the way we went through the arithmetic.

How often have we seen the scholar hesitating for a word in the midst of a sentence, upon which the whole meaning depended, kindly supplied with that word by the teacher, who never seemed to dream that the pupil in failing to get that had failed in obtaining any idea from the sentence whatever, and that instead of its being a collection of words making complete sense, it was a jumble of words making complete nonsense. Thus: "John, what is English Grammar?" John starts very volubly, and on a very high key: "English Grammar teaches us to read the English language"—teacher interposes, "Teaches how to speak, is n't it?"—John readily assents: "Teaches how to speak the English language correctly." "But it teaches something else, does n't it?" "Yes sir." "Well what else is it that it teaches?" "Why, sir, I know very well what it is, but I can't just think of it." "It teaches to write the language correctly, does n't it?" "Yes, sir! I was just going to say that." Now if the teacher were to ask John, after all this catechising and these leading questions, to give the definition in full, he probably could come no nearer it than at first.

No teacher can be sure that his pupils have an intelligent knowledge of their lessons, unless they can recite the words of the text promptly, and without the straining effort to recollect, that it is painful to witness. Whenever a scholar fixes his eye on vacancy with a dull leaden look, accompanied by knit eyebrows and an evident unconsciousness of every thing going on about him, and runs over the words of his lesson with precipitate rapidity, he should be stopped at once, as he knows nothing more of what he is attempting to recite than though it was Choctaw or Sanscrit. He should be compelled to go over the text very slowly, enunciating every word with the utmost distinctness, giving the definition of every word, and at last, the sense in his own language. Even after the subject has been held up, suspended, as it were, in a dry light, so that the pupil can look all around it and has answered every question upon it, the teacher can not feel too sure that it is thoroughly understood. We remember a case in point in our own experience. We were examining a class that we had taught in English grammar, and which, we had a great deal of confidence, understood pretty thoroughly as much of the subject as it had been over. One of the questions was—"What are the three methods of distinguishing gender in English?" The answer, of course, was—"By different words, by different terminations, and by words prefixed or affixed." What was our disgust to find that several of the class had written determinations for terminations, showing by this most ridiculous answer, that they had attempted to commit words to memory without the most remote conception of their meaning. If our friends, who think they are doing remarkably well in their teaching, and are inclined to be puffed up thereat, let them put their pupils through a pretty stiff written examination, and our word for it, they will have the conceit taken out of them pretty effectually.

To return to questions suggestive as helps over hard places. A friend of ours relates that he once was present at the examination in geometry of a graduating class in a young ladies' academy, which proceeded something in this wise:

Teacher.—Miss A., what proposition have you to demonstrate?" Miss A. says nothing, and looks embarrassed. "It is to demonstrate that the three angles of a triangle are equal to two right angles, is it not?" "Yes, sir!" "Another pause." "You draw the triangle ABC, do you not?" "Yes, sir!" "And she draws it." "You then draw the line ED parallel to the line AB, do you not?" "Yes sir," And so on through the whole demonstration! That was a process of unfolding mind, was n't it?

Let us say, in conclusion, if any of our readers have been in

the habit of attempting to help their pupils over difficulties by suggestive questions, reform it altogether as you value your success as teachers.—*Ohio Educational Monthly.*

The Earl of Malmesbury on Popular Education.

The Earl of Malmesbury distributed the prizes at Christchurch, Hants, in connection with the Society of Arts, and after a few introductory remarks, said:—It is almost superfluous for me to talk to you upon the importance of educating the people: there is at the present time but one opinion on the subject. One cannot but recollect with a smile of satisfaction how different the opinion upon this subject is now from what it used to be formerly—say twenty or thirty years ago. I remember a very great man, and at that time a very great Liberal, for he was a truly liberal man—but he was a man of his time—no less a man than Prime Minister of this country—I remember him joking about Education and expressing his belief that it might be carried too far, as he termed it. With his usual wit he described what would happen if housemaids learned to read. Then he said they would read novels in bed and set the house on fire; if they learned to write, they would waste their time in writing letters to their sweethearts. Now, I confess at that time I did not see why they should not write letters to their sweethearts. That is an example of the views of the greatest men years ago as to popular education; but you don't see the same thing now. If you talk of housemaids and servants generally reading or not reading, you know at once that no gentleman would take a servant into his house who could not read. Why, if he gave him half-a-dozen notes to carry out, and the man could not read, how would he know how to deliver them? He would be obliged to ask persons whom he met how this or that note was directed, and thus the whole town would become informed of his master's business. Yet such was the case certainly not more than thirty years ago, that many servants in gentlemen's houses, and certainly the greatest number in the houses of the masters and mistresses of the lower classes, were ignorant of reading and writing. Therefore, I would ask you not to adopt the discouraging tone of some recent speakers of respectability on Education. I have seen some within the last three weeks try to prove that Education was retrograding. That cannot be true, because any man of my age must recollect the state of Education when he was a youth, and how different is now the state of intelligence of the working class of this country from what it used to be. We are improving, we are not retrograding; and it is to meetings like this and to societies like the Society of Arts that such improvement is due. After combating the idea that Governments had been remiss in the matter of Education, the noble Earl said: "When you consider this, that £9,000,000 have been expended within a very brief time, and that 11,500 certificated teachers are at this moment hard at work in the instruction of the middle and lower classes, I say it would not be correct to state that Parliament and preceding Governments have done nothing for the education of the people. We have heard a great deal about compulsory Education. A great many men—good judges of mankind, and men who know pretty well the feeling of the people of this country—think that compulsory Education is the panacea, the great remedy for the evils of the day. If I may give an opinion—and I do not purpose to state it as a decided one—I think that the plan of compulsory Education, although it may be carried on in Prussia, would be altogether opposed and rejected in this country, where a spirit of independence exists which will not allow of people being interfered with in their own homes. But that does not prevent our seeing, and wishing to make all parents feel, the tremendous responsibility cast upon them if they neglect the opportunity of educating their children and making them good citizens." Pursuing his remarks on the neglect of Education, the noble Earl said, "Whatever Government may be in power, I am sure I can answer for the one to which I have the honour to belong, that they will never be indifferent to the subject of the Education of the people, but they will exert themselves to the utmost to solve that problem which has been so ably alluded to by the eloquent gentleman on my left!"—*Papers for the Schoolmaster.*

National Musical Education in England.

The following article, having special reference to the proceedings of the Musical Education Committee recently organized by the Society of Arts for the purpose of inquiring into the present condition of Musical Education in England, is from the *Morning Star*:—

"However little we may be disposed to agree in matters political with Mr. Matthew Arnold's glorification of continental 'Geist,' we

are compelled to coincide in his condemnation of the wretched condition of the fine arts in this country as compared with France, Italy, or Germany. In æsthetic education individualism does not seem indeed qualified for success. We do not believe that in artistic capacity Englishmen are one whit inferior to Frenchmen or Germans; the reason, therefore, that the former make so poor a show beside the latter in many artistic pursuits, we can only look for in the entire absence in this country of any public organization for training the high natural powers which now run wild and waste. In France, in Germany, in Italy, the State undertakes systematically the artistic education of a limited number of the most gifted youth of both sexes. Hence there is never a deficiency of skilled teachers of music and the plastic arts in those countries; whereas in England, though we have some great artists, they are accidents, and we cannot in the present state of things, without an intelligent teaching body, expect any general diffusion of the principles of sound art throughout the country. This want is felt more especially in music, for our cathedrals and churches of all denominations require a constant supply of trained musicians, while the growing taste for music among all classes, ill-regulated as it unhappily has hitherto been, attracts an increasing number of teachers. The absence of some central body to guide the public taste in musical matters, and to train professors of the art, is becoming more and more a subject of complaint. The Society of Arts has recently taken the matter in hand. A Committee was appointed for the purpose of inquiring into the present condition of musical education in England, and comparing it with the continental system. The Prince of Wales was chairman, and several gentlemen, well known for their interest in questions of art, took a part in the investigation. The Committee's report has just been published, and is a very interesting and instructive document. It contains very copious details respecting the constitution and working of the various institutions for musical training, for the most part originated and supported by private persons at present existing in this country. These are the Royal Academy of Music, the National Colleges of Music, the London Academy of Music, the London Vocal Academy, and the Military School of Music. Reports are subjoined of the state and success of the musical institutions of Paris, Munich, Vienna, Prague, Leipsic, Berlin, Milan, Naples, Brussels, and Liège. The evidence of the chief professors, composers, and performers, as well as of some critics and gentlemen who have studied the question, is given at length; so that it will be seen ample materials have been provided to enable the public to form a judgment as to the expediency of the State interfering in the matter.

"The report itself is very brief, and merely gives an outline of the plan which the Committee would desire to see adopted. The Royal Academy of Music, which is organized under Royal Charter, and receives 500*l.* per annum from the State, would be the natural centre of a new system. The Committee would look for a considerable Parliamentary grant, under the control of the executive, as the first requisite for organizing afresh the musical education of the country. In this way gratuitous instruction, on the French plan, might be given to persons of great natural powers, who would engage to devote themselves to the public service as musical teachers, and who, after their education had been completed, would for some time receive support by means of scholarships given away by competitive examination. The institution would also be open, on payment of moderate fees, to the general public. The present premises of the Royal Academy of Music being unfit for their purpose, the Committee propose that a site should be obtained from the Crown, and buildings be erected by funds raised by subscription. It is believed, of course, if these suggestions adopted, the lovers of music in England would co-forward most liberally to assist in providing a proper asylum for the new Academy. The present state of music in England is enough to show how urgent some step in advance is needed. If we glance over the names of the celebrated composers, singers, and performers of the day, we see many French, German, and Italian names for every English name; and this but faintly represents the immense defect of trained teachers and performers which is to be found in the lower ranks of the musical profession. We cannot go into the details of the foreign institutions which are given in the report, but one or two instances will be enough to show that, to account for the inferiority of England in musical skill, we need not assume that she is inferior in musical taste or power. Our entire State contribution to musical teaching is, be it remembered, 500*l.* a year. In France, the Government maintains the Conservatoire at Paris at a cost of nearly 8000*l.* per annum, besides giving subventions to various provincial places of instruction. Throughout Germany the musical academies, which are all well endowed, receive likewise State assistance to a large extent. In Italy, the three academies of Naples, Milan, and Florence receive in various proportions an annual grant from the State of more than 11,000*l.*

"The report is well worthy of public attention. It may be asked, what good result could the community in general expect from an increased expenditure, legislative or voluntary, in this direction? We cannot look, to be sure, for any material or immediate advantage; but surely there can be few who will refuse to acknowledge that, as you raise the taste of a nation, you withdraw them from debasing vices, and elevate them in the moral scale. England, moreover, has of late been so absorbed in the struggle for commercial and manufacturing supremacy, that she has neglected and lost her old fame as a land of music. Perhaps we can hardly go so far as to endorse the somewhat imaginative declaration of Mr. Chester, that "Merry England was musical England;" but we share with him the hope that the efforts of the Society of Arts may help us to make England musical again. We are not, in general, votaries of State subvention or State action where private and voluntary organization can possibly be made available; but we seem to be in exactly the same position with regard to music that we are with regard to literature. The State just give enough to affirm the principle of State patronage; not enough to be of the slightest practical service. By giving nothing, we should, at all events, save a trifle; by giving something substantial, we should, at least, accomplish a result; at present we sanction the vice of the worst kind of patronage without achieving any of the good purposes which a wise and practical patronage generally secures."—*Educational Times*, London.

Physical Exercises and Recreation for Girls. (1)

In discussing this question, it is convenient to divide it into two parts: taking first, physical exercises, which do not profess to be play, though pleasure may be got out of them by the way, as out of other tasks dutifully performed; and secondly, recreation, in the sense of amusement, including all sorts of active sports. The distinction is not very definitely marked, but may be made sufficiently so for our present purpose.

The physical exercises practised by girls, and not professing to be play, are drilling, gymnastic and calisthenic exercises, dancing and walking. *Drilling* is not much esteemed in girls' schools. *Gymnastic* and *calisthenic* exercises have great merits in the way of giving strength and elasticity to the muscles, and it is very desirable that schools should be provided with the necessary appliances for them. The system of Dr. Roth and Mr. Tyler are excellent, and may be learned from the books published on the subject. These exercises may almost be regarded as play; there is at least no doubt that many girls enjoy them very much. This is especially the case when they are accompanied by music, which, however, is not essential. *Dancing* has merits of its own, especially that of cultivating the musical sense. Graceful motion—melodious, in that it is modulated to a tune, and harmonious, in that it is the common and mutual action of many performers—is beautiful in itself, and if pursued for its beauty, and not as an occasion of individual display, can scarcely fail to be beneficial to both mind and body. And though it counts among lessons, and the practice of steps is certainly irksome work, it may be made a dignified kind of play in play hours. *Walking* can scarcely be dispensed with, though, taken by itself, there is not much to be said in its favour. Its dullness may be got over by giving it an object, but that is difficult in schools. Schoolmistresses cannot be perpetually inventing errands, and the girls themselves are not likely to have many. Much of course depends on the locality. Where it is possible to get free country rambles, they may be made very enjoyable, but these are scarcely within reach of ordinary London schools.

The merely physical exercises seem all to share in one common deficiency; they want life and spirit. They would be more beneficial even to the body if they had more heart in them. When the body is languid or tired by study, a force of some kind is required, either that of persuasion or command, or a sense of duty, or the prospect of pleasurable excitement, to impel a girl to take exercise. She wants either to go on with her lessons or to do nothing. And considering how many things there are, in school life as in all life, which must be done as duties, it seems very desirable that whatever form of relaxation from mental work is adopted, it should be looked forward to as a pleasure, not as another and perhaps the most irksome task. In order to make play really interesting, it seems essential that it should be competitive. Either it must be a game with sides, in which one party or the other wins, or there must be something to be done, some feat to be performed. All the most popular games contain this element of struggle, and it is a most important point to bear in mind,

(1) The following paper is an epitome of the results obtained in discussion of the subject at a meeting of the London Association of Schoolmistresses, 10th May, 1866

as the great difficulty with girls seems to be that they do not care for play. Of course this does not apply to children, who if they are told to play will do it readily enough, but to girls from fourteen to twenty, who specially need the variety of hearty, vigorous play. They would rather read, or saunter about talking; and one cannot wonder at it, as the kind of play usually within their reach is either too stupid or too childish to interest them. Keeping specially in view the case of the older girls, we proceed to inquire what sports there are which are at once healthy, pleasant, suitable for girls, and practicable in London.

Among the active sports which are practised by women and girls may be mentioned swimming, rowing, cricket, croquet, archery, la grasse, quoits, bowls, ninepins, skipping, battledore and shuttlecock, coronella, and other more childish games. *Swimming* has all sorts of advantages. It works the muscles, and gives play to the lungs; it is competitive, and therefore inspiring; it gives a sense of power; it may be a means of saving life; and finally, it is accessible to any school which is within walking distance either of the Marylebone Bath, or of the Ladies' Swimming Baths, York Terrace, Regent's Park. *Rowing* has many similar recommendations, and is not unattainable even in London. Boats may be hired in the Regent's Park for eightpence an hour, and with proper care, and by choosing suitable hours, they may be made use of by ladies' schools. *Cricket* is very popular in some country schools, and it is believed that cricket grounds might be hired in London. *Croquet* has the cardinal merit of being almost universally popular, and it requires little preparation. It has the disadvantage that there is a good deal of stooping over it and standing still. *Archery* is very good for expanding the chest and training the eye, but it requires more space than is usually available, and a great deal of preparation. The game of *quoits* is capital for training the eye, it exercises the muscles, is interesting, requires little space and no preparation. If iron quoits are found too heavy, those made of india rubber can be used. *La grasse* is a good game, and shares with *bowls*, *ninepins*, and *skipping*, the advantage that it can be played either indoors or out of doors, according to circumstances. The game of *fives* is strongly recommended by some people; by others it is said to be too severe. A good deal depends on whether it is played with or without bats, the former being much easier. *Battledore* and *shuttlecock* is lively, if played in parties, and the noise, which is its great drawback, may be avoided by using what are called racket-bats. *Coronella* is comparatively quiet, and requires more skill than battledore and shuttlecock, but it is not very interesting. The more childish games, which are very numerous, are passed over for the reason before given, that children can find amusement for themselves, and can be pretty well trusted to run about and make as much noise as other people can hear. It is for the girls who are neither children nor women that it is necessary to provide active amusement of an attractive sort. (1)

A few remarks on matters connected with this question may here find place. And first, as regards dress. For many kinds of active sport girls' dress is very inconvenient. One does not quite see how this is to be got over, as it would not do for school girls to be dressed differently from other people. But it might at least be urged upon them to avoid tight clothes and thin boots. They might also perhaps be provided with some clothes which will stand rain. It is a reasonable objection to going out in wet weather, if a girl knows that she will come in with her dress ruined. To have access to food at convenient times is another requisite connected with physical exercise, as an active game may be over-exhausting to a hungry girl, and so do her more harm than good. In all cases, but especially where the constitution is not strong, over-exertion requires to be guarded against, and in proportion as play is made more interesting, watchfulness on this point will be necessary.

As bearing upon the subject of recreation, it may be mentioned that occasional excursions, say one in a term, to some place of interest within a reasonable distance are found very refreshing. In London, the Tower, Westminster Abbey, the Crystal Palace, the British Museum, the South Kensington Museum, and other objects of interest are within easy reach. Where expense is not a consideration, visits to more distant places can easily be arranged, and are looked back upon with pleasure for long after. It is suggested that both as regards games and other kinds of amusement, something might be done by a combination of resources. A croquet match between two schools would be more exciting than a game played by one school only. On wet days, schools which are near together might make the indoor games more lively by an interchange of girls. These considerations

(1) The appliances required for gymnastic and calisthenic exercise, and for games of all sorts, as well as the fullest and latest information on the subject, may be obtained at the South Kensington Museum, on application to Mr. Craven, Education Department.

apply chiefly to small boarding schools. Large schools and day schools get variety in other ways.

In carrying out most of the foregoing suggestions, two great obstacles present themselves—time and expense. Everything takes time, and most things cost money. As to the first difficulty, it can only be urged that, as a general rule, good results are not obtained by sacrificing any one part of our nature to another. If study takes up so much time that there is not enough left for play, there must be too much study going on. The lessons must be too many or too long, and ought to be curtailed. Probably in the end, the lessons would not suffer. It seems to be testimony of experience, that when we are bright and lively we do our best work, and a little time then goes a long way. To keep young people in quiet, equable, good spirits, neither languid nor over-excited; seems to be the great thing. This is of course greatly, it might almost be said mainly, dependent on moral causes. It would be a fatal mistake to imagine that any amount of good management of the body can ever take the place of a rightly ordered moral and spiritual life; and probably goodness and happiness do more for the body than mere physical health will do for the mind. It is, however, generally agreed that it is easier to be good and happy when the body is in a thoroughly sound condition, and it is therefore worth while, in every point of view, to give up as much time as circumstances may render necessary, in order to secure physical health.

The same considerations apply to the question of expense. It is clearly desirable that "physical exercises and recreation" should be made as little costly as possible—that money should not be squandered upon them. But it ought not to be taken for granted that money spent in this manner is thrown away upon superfluous luxury. In so far as the exercise or the recreation serves to make young people lively and vigorous, the outlay is as profitably bestowed as if it had been for food or clothes. It is certainly more in accordance with true economy to spend money in strengthening the constitution in early life than to pay it in after years for doctors, and tonics, and codliver oil.

SCIENCE.

A Strange Place for Rotifers.

BY HENRY J. SLACK, F. G. S.,

One of the Hon. Secs. of the Microscopical Society of London.

In the writer's garden hangs a Mason's hygrometer, or wet and dry bulb thermometer. The supply of water to keep the wet bulb moist is held in a small glass vessel about one inch in diameter, and rather more than that in height, and having a short neck, just wide enough to allow some threads of lamp cotton to hang freely through it. It may therefore be described as a small glass, squat bottle, loosely stoppered with lamb cotton. Every two or three days in warm dry weather, and every two or three weeks in wet weather, this vessel requires replenishing, which is usually done by holding it under a tap, and suffering the stream not only to fill, but to give a good washing to the cotton and to the vessel. When the cotton is dirty it is removed, and fresh supplied. No green matter of any kind has grown in the vessel, and very little atmospheric dust could find access to it. Under these circumstances it could not be expected to be a favorable place for any kind of infusoria, but in August the cotton fibres became slimy without getting discoloured, and this circumstance led to a microscopic examination. There was no decay in the cotton fibres, and very little extraneous matter adhering to them, but the slimy matter resulted from the presence of a considerable number of infusoria, among which were many rotifers of small size and of the common sort.

The chief infusoria in point of numbers were monads of minute dimensions, some swimming freely with a jerking motion, and others jumping violently without much change of place. With the help of Smith and Beck's one twentieth and first eyepiece, giving a magnification of 1000 linear, it was seen that these little objects were provided with single tails or filaments, and were able to adhere to the glass by the extremities of these organs, and being thus moored fast to a fixed point, they executed a series of jerking jumps in all directions, with great liveliness. The body of these little monads was white and pear-shaped, about 1—5000th in greatest diameter, and more or less filled with smaller cells. The tails or filaments were exceedingly fine, and four or five times the length of the bodies. A few small ciliated infusoria were also present. The rotifers were numerous and very lively, though apparently stunted in growth by the limited supply of food,

Part of the cotton was transferred to a Preston salts bottle filled with cistern water, and left uncovered, so as to catch floating dust. The consequence was that in a week or two much more organic matter was present than had been in the hygrometer vessel, but this did not lead to increase in the rotifers, which on the contrary decreased, although some new animalcules (trachelius, etc.), made their appearance, and one very delicate round, empty test—probably of a diflugin—was observed. This was curious on account of its being covered with what appeared to be microscopic crystals of carbonate of lime.

As it cannot be supposed that clean undecayed fibres of cotton were devoured as food by any members of the colony, they must all have lived on the very minute quantity of other organic matter present, and either in decomposition or growth. The monads were probably vegetable, though possibly animal. They appeared to form the food of the rotifers, and had nothing noticeable to live upon.

This accidental experiment affords an illustration of the fact that very minute quantities of organic matter in decay are sufficient to lay the foundation of, and for a time support, a numerous infusorial colony, which may include objects of comparatively high organization. The wind may have carried small rotifers, or their eggs, on to the cotton; or, which is more likely, one may have been imported in the cistern water with which the hygrometer vessel was filled; and notwithstanding the limited supply of food, the creature and its progeny flourished for many weeks.—*Intellectual Observer.*

OFFICIAL NOTICES.



DEPARTMENT OF PUBLIC INSTRUCTION.

OFFICIAL TOUR OF THE HON. SUPERINTENDENT.

His Excellency the Governor General was pleased, by an Order in Council of the 15th October, 1866, to approve of the Resolution of the Council of Public Instruction, recommending that in view of perfecting as far as practicable our system of Public Instruction, and giving the best possible direction to Education, in the interest of the youth of the country, it is of the utmost importance to compare the system adopted and the results obtained so far in Lower Canada with the systems and methods pursued in other countries, and that in consequence the Superintendent of Education should visit Europe and the United States at an early day, and report to the Government the result of his enquiries and observations, as well as the suggestions which he may think proper to submit with regard to public instruction in this country. His Excellency was pleased accordingly, by said Order in Council, to grant leave of absence to Hon. Pierre J. O. Chauveau until the 1st May 1867, for the purpose of carrying out the instructions contained in the foregoing resolution.

APPOINTMENTS.

DEPUTY SUPERINTENDENT OF EDUCATION.

His Excellency the Governor General in Council was pleased, on the 6th November, 1866, to appoint Lucius Giard, Esquire, M. D., Deputy Superintendent of Education for Lower Canada, under the powers conferred by the Consolidated Statutes of this section of the Province, Cap. 15.

INSPECTOR OF SCHOOLS.

His Excellency the Governor General in Council has been pleased to appoint George Thompson, Esquire, B. A., to be a School Inspector for the District of Huntingdon, in room of the late John Bruce, Esquire, deceased.

EXAMINERS.

His Excellency the Governor General in Council was pleased, on the 22nd October, 1866, to appoint Désiré Bégin, Esquire, and Rev. M. Ferdinand Laliberté, Priest, to be Members of the Board of Examiners of Rimouski, the latter to fill the place of Mr. Thomas Dechêne, resigned.

SCHOOL COMMISSIONERS.

His Excellency the Governor General in Council was pleased, on the 20th November, 1866, to make the following appointments of School Commissioners and Trustees of Dissident Schools, viz:

County of **Arthabaska**, West Chester,—Rev. Joseph Agénor Moréau.

County of **Bonaventure**, Paspébiac,—Messrs. Théophile Chapados and James Ancoux.

County of **Chicoutimi**, Chicoutimi,—Messrs. Job Blackburn and Protais Harvey.

County of **Gaspé**, Cap Rosier,—Messrs. John Dunn and Elie Touet.

County of **St Johns**, St Johns,—Rev. Fortunat Aubry, and Félix G. Marchand and John Rossiter, Esquires.

County of **Rimouski**, Ste. Felicité,—Rev. Joseph Octave Perron.

County of **Rimouski**, St Jérôme de Matane,—Rev. Désiré Vézina.

County of **Stanstead**, Coaticook,—Mr. Hilaire Lacroix.

County of **Temscouata**, Madawaska,—Messrs. Jean Evrard St. Pierre, Denis Griffin, Michel Plourde, Lame Beaubien and Paul Pelletier.

County of **Temscouata**, Ste. Louise,—Mr. Magloire Gauvin.

TRUSTEES OF DISSIDENT SCHOOLS.

County of **Hochelaga**, Village of St Jean Baptiste,—Mr. David V. Claribue.

County of **Ottawa**, Papiineauville,—Mr. Christmas Smithson.

BOOKS APPROVED.

His Excellency the Governor General in Council was pleased, on the 15th October, 1866, to sanction the Resolution of the Council of Public Instruction for Lower Canada approving of the following Books for the use of Public Schools, viz:

For Academies:

1. Elementary Latin Grammar. By Dr. Leonard Schmitz. Published by R. Chambers.
2. Elementary Latin Exercises. By the same, and published by the same.
3. Grammar of the Latin Language. By the same, and published by the same.
4. Advanced Latin Exercises. By the same, and published by the same.
5. School Dictionary of the Latin Language. Published by W. R. Chambers.
6. Treatise on Practical Mathematics. Published by the same.

For Academies and Model Schools:

1. *La Grammaire complète de Poitevin.*
2. *Traité d'Analogie grammaticale.* By the same.
3. *Traité d'Analyse logique.* By the same.
4. *Cours complet de Littérature.* By the same.

For Elementary Schools:

1. *Le Premier Livre de l'Enfance.* By Poitevin.
2. *La Grammaire du Premier Age.* By the same.
3. *La Grammaire Elementaire.* By the same.
4. *Cours gradués.* By the same.

DIPLOMAS GRANTED IN THE NORMAL SCHOOLS.

JACQUES-CARTIER NORMAL SCHOOL.

Academy.—Virgile Armand.
Model School.—Pierre Provost.
Elementary School.—J. A. Beaulieu.
 Montreal, Nov. 12, 1866.

DIPLOMAS GRANTED BY BOARDS OF EXAMINERS.

BOARD OF PROTESTANT EXAMINERS OF WATERLOO AND SWEETSBURGH.

1st Class Elementary, E.—Melburn S. Briggs and William Whettin.
2nd Class Elementary, E.—Chauncey R. Bridge, Charles A. Humphrey, Misses Anna H. Sweet, Elvira Church.
 November, 1866.

J. A. GIBSON,
 Secretary.

BOARD OF EXAMINERS OF CHICOUTIMI.

1st Class Elementary, F.—Laure Gaudreault and Delphine Alvina Charrest.
 August, 1866.

1st Class Elementary, F.—Louise Simard.

Mrs. N. CLOUTIER,
 Secretary.

BOARD OF EXAMINERS OF BEAUCE.

2nd Class Elementary, F. & E.—Mme P. Loubier (Alvina Blanchet) and
Josephine Blanchet.
2nd Class Elementary, E.—Catherine Power.
November, 1866.

J. T. T. PROULX,
Secretary.

BOARD OF PROTESTANT EXAMINERS OF QUEBEC.

Model School, E.—William Thompson.
1st Class Elementary, E.—William E Moore.
September, 1866.

D. WILKIE,
Secretary.

ERECTIONS, &c, OF SCHOOL MUNICIPALITIES.

His Excellency the Governor General in Council was pleased, on the
20th November, 1866,

1st. To annex the fifth and sixth ranges of the Township of Stukely, in
the County of Shefford, to the Municipality of North Stukely for school
purposes, which annexation is to take effect on the 1st July, 1867.

2ndly. To erect the Seigneurie of Madawaska, in the County of Temis-
couata, into a Municipality for school purposes, by the name of the *Mun-
cipality of Madawaska*, with the limits assigned to the rural municipality
of the same name.

3rdly. To annex to the School Municipality of Settrington, in the
County of Charlevoix, that portion of the concession of Ste. Croix de-
tached from the Municipalities of St Urbain and St. Paul's Bay and already
incorporated with the said Municipality of Settrington for ecclesiastical
purposes.

NOTICE TO SCHOOL COMMISSIONERS AND SCHOOL TRUSTEES.

School Commissioners and Trustees of Dissident Schools are requested
to transmit to this Office, as in duty bound, the names in full of all persons
elected by the Ratepayers to fill places connected with the Public Schools
in Lower Canada, together with the date of each election, whether such
election took place during the month of July or at any other time. As this
information is indispensable, parties not complying with the present Notice
will be deprived of the grant.

NOTICE TO TEACHERS.

Teachers' signatures attached to Semi-Annual School Reports, should
invariably correspond with their names and surnames as given by them to
the Secretary of the Board of Examiners from which they obtained the
diplomas authorizing them to teach in the Public Schools of Lower
Canada. Non-compliance with this Notice may, in every case, occasion the
payment of the grant to be delayed, or the grant to be withheld.

SITUATION WANTED.

A young lady provided with a diploma from the Laval Normal School
authorizing her to teach in the Model Schools, offers her services to give
instruction in French, in English, and in Music. Enquire at this Office.

DONATIONS TO THE LIBRARY OF THE DEPARTMENT.

We acknowledge with thanks the receipt of the following donations to
the Library of the Department of Public Instruction:

From Philip P. Carpenter, Esq, B.A., Ph. D.—Our Convicts. By Mary
Carpenter.—2 vols. 8vo.

Memoir of Dr Lant Carpenter. By Rev. L. Carpenter. 1 vol. 8vo.

Sermons on Practical Subjects. By Dr. Lant Carpenter. 1 vol. 8vo.

Apostolical Harmony of the Gospels. By Dr Lant Carpenter. 1 vol.
8vo.

Juvenile Delinquents. By Mary Carpenter. 1 vol. 8vo.

Extracts from the Reports of H. M. Inspectors of Schools. 1 vol. 12mo.

Words on the War. By P. P. Carpenter. Pamphlet.

Human Life in Canada. By P. P. Carpenter. Pamphlet.

The Oberlin Series of Tracts. Published by P. P. Carpenter. 12mo.
Pamphlet.

Songs of Progress and Affection. Published by P. P. Carpenter. 18mo
Pamphlet

Music of Progress and Affection. Four parts. Published by P. P. Car-
penter. Pamphlet.

Music of Progress and Affection. Two parts. With *First Notions of
Singing and Elocution* for Schools. Published by P. P. Carpenter. 16mo.

From Messrs Reid, Macfarlane & Co, A gents, 153, Great St. James
Street, Montreal, the following School Books forming part of Chambers's
Educational Course:

Infant School Primer. 5 copies.

First Standard Reading Book. 5 copies.

Second Standard Reading Book. 5 copies.

Third " " " 6 "

Fourth " " " 7 "

Fifth " " " 5 "

Sixth " " " 4 "

Spelling-Book, with numerous Exercises for Dictation. 2 copies.

Readings in English Literature, containing Readings in English Prose
and Readings in English Poetry. 1 copy.

Introduction to English Composition. 1 copy.

Introduction to English Grammar. 1 copy.

English Grammar and Composition. 1 copy.

Exercises on Etymology. 2 copies

Algebra: Theoretical and Practical. 1 copy.

Solid and Spherical Geometry and Conic Sections. 2 copies.

Mathematical Tables These comprehend the most important Tables
required in Trigonometry, Mensuration, Land Surveying, Navigation,
Nautical Astronomy, &c, and are particularly adapted to the Treatises of
Practical Mathematics of the above mentioned course. The tables of
Logarithms, Logarithmic Lines, &c, are carried to seven decimal places.
2 copies.

Natural Philosophy. In 2 vols.

The Economic and Comprehensive English Dictionary. By Arnold D.
Couley 2 copies.

Julius Caesar; also, Macbeth,—from Chambers's Household Shake-
speare, an edition purified of objectionable words and phrases, and spe-
cially adapted to be read aloud or recited in family circles and schools.
1 copy of each.

Spelling-Book, with numerous Exercises for Dictation. Parts First,
Second, and Third. 2 copies of each.

Chambers's Twopenny Copy-Books in a Progressive Series of Ten. 1
copy of each.

JOURNAL OF EDUCATION.

MONTREAL (LOWER CANADA), NOVEMBER AND DECEMBER, 1866

Departure of the Hon. Mr. Chauveau for Europe.

On the 14th November, the Hon. Mr. Chauveau, Superin-
tendent of Education for Lower Canada, sailed for Liverpool in
the *Australasian*, in company with the Hon. Messrs. Cartier and
Galt, who, as it is generally known, visit London with the object
of definitely arranging the terms of our future Confederation.

Charged with the task of studying the educational systems in
the most progressive countries of Europe, Mr. Chauveau will
commence his labors in the United Kingdom, visiting in turn
England, Scotland and Ireland, thence he will pass successively
into France, Belgium and Prussia, and after visiting other parts
of Germany, proceed to Austria and Italy, sojourning a while at
Rome, its far-famed metropolis.

Mr. Chauveau's long experience in the practical working of
our system, his exact knowledge of the state of education in this
country and of the educational wants of its population, will doubt-
less enable him to gather from his travels through the most highly
civilized communities of the Old World, much valuable inform-
ation which may advantageously be brought to bear in the devel-
opment of public instruction here.

The great perfection to which several European nations have
attained in national systems of education offers a fertile field of
enquiry, and one that has been profitably explored by those charged
with the administration of public instruction on this side of the
Atlantic.

Dr. Ryerson, Chief Superintendent of Education for Upper
Canada, has already made two official voyages to Europe, and is

now, as will be seen by an extract reprinted elsewhere in these columns, making a third trans-Atlantic tour to observe and report on the improvements that have taken place since his former visits.

In the absence of the Superintendent, Dr. Giard will assume the direction of the Department, having received the necessary authorization by an Order in Council bearing date 6th November, 1866.

On his departure, the following address was presented to Mr. Chauveau, by the *employés* of the Department :

"To the Hon. P. J. O. Chauveau, Superintendent of Education for Lower Canada.

"Sir,—On the eve of your departure, we have come to testify our regret at your intended absence from among us, and to assure you of our high esteem. Your conduct towards us has ever been of a nature to secure this esteem, and we are happy to give it expression on this occasion. Our best wishes attend you on your voyage, which we hope will be a prosperous one. We rejoice at the mark of confidence bestowed upon you by the Government ; it has been justly earned by twelve years of incessant labor expended in the amelioration of our system of public instruction, and by the success which has attended your efforts. You are now going to search the experience of older countries for new means with which to continue the progress already achieved. Yours is a public mission : the education of a people is essentially linked with its prosperity. Every improvement which our system shall gain from the result of your observations in foreign countries will, therefore, prove an additional means of general prosperity ; and no one is better qualified than yourself to pursue these enquiries and to render them beneficial and of practical application. The future may be read in the past. Once more we wish you a prosperous voyage, and trust that we shall see you soon again in our midst, fortified by renewed energy and fervor to labor in that great cause with which you have, as it were, become identified.

LOUIS GIARD,

Deputy Superintendent ;

J. J. PHELAN,

Assist. Editor *Journal of Education, &c.* ;

A. N. MONTPETIT,

Assist. Editor *J. de l'Inst. Publique, &c.* ;

PIERRE CHAUVEAU,

Clerk of Accounts and Statistics ;

J. B. LENOIR,

Clerk of Records ;

J. J. LAPPARE,

Storekeeper ;

J. B. MARCOUX,

A. GIARD,

PAUL BLOUIN,

Messenger ;

D. LUCK,

Keeper of Government Buildings.

The McGill University Lecture.

Last evening, Principal Dawson, Vice-Chancellor of the University, delivered the annual University lecture at the "William Molson" Hall. The Chancellor (Hon. C. D. Day) presided, having near him on the platform—Hon. Jas. Ferrier, Mr. Dunkin, M. P.P. ; Mr.

Robertson, Q. C., and Mr. W. Molson, Governors ; the Vice-Principal of McGill College, and several Fellows, Professors, and Graduates—many of them in costume. More than a hundred students in the three faculties, and a large number of ladies and gentlemen, friends of the University, occupied the body of the Hall. The Chancellor having introduced him to the audience,

The lecturer commenced by stating that the extension of University education might be taken in various senses. It might refer to the extension of the course of study, or of the subjects of examination, to the increase of the number of students obtaining such education, or to such measures as those recently passed by our Provincial Legislature for increasing the number of Universities. Regarding the last of these, as in our circumstances, quite unnecessary, he proposed to enquire as to the two former kinds of extension, especially as connected with Lower Canada, and with the McGill University. As introductory to the consideration of these subjects, he shortly sketched the aspects of University education in Great Britain, in reference to its extent and proposals for further extension, from the beginning of this century to the present time. He pointed out that the time when McGill College was revived under its amended charter, was a time of change and transition in the University system both in the old and new world, and that various courses were open to the authorities of McGill, between the narrow and limited sphere of study in the older English Universities, and the innovations then recently introduced or proposed in the newer institutions of this kind. He then mentioned the system actually adopted here, an eclectic one, not being similar to any in use elsewhere, but based on a careful study of the results of actual experience here and in other countries, with a view to realizing the best possible practical results. It had been eminently successful in gathering around the University a large and able body of professors and lecturers, and a very large number of students, in the provision of buildings, collections and books, in the affiliation of Colleges to the University, in the great educational results directly or indirectly attained, and in laying a sure basis for future effort. Much, however, still remained to be done before the University would attain its full development, either in regard to the extent of its works or the number of its students. It may be thought that the sphere of the University is purely educational rather than practical ; but in a country so deficient as this in schools of art and practical science, and yet aspiring to success in those industries which without such schools must be crude, abortive and unsatisfactory, it is most desirable that the University should be enabled to do something. He described the schools of practical science in Harvard and Yale Colleges, the recent donation of \$50,000 to found a school of mines in the former ; and the School of Technology in Boston, with an endowment of half a million of dollars. The hundreds of young men trained in all the applications of physical and chemical science, going forth from such schools, constitute a power which must always make the country possessing them, and, notwithstanding any artificial stimuli, an invincible competitor to a country which starves its Boards of Arts, and gives no endowments to schools of practical Science and Art. Another way in which the cause of learning might be advanced in this country was by connecting with our Universities annual lectureships on subjects not regularly taken up in the College course, on the plan of the Bampton lectures at Oxford. These lectureships would be useful here on such subjects as the Christian Evidences, Biblical Literature, Local History and Antiquities, Hygiene and Sanitary Reforms, Economic Science, Local Natural History and the Fine Arts. There was much room for improvement in the Collections, Library and Apparatus of this University and its affiliated Colleges. Some interesting details were given as to the accumulation of the present collections and Library of the McGill University, and the recent munificent provision for such objects at Oxford, and in connection with Harvard College were noticed as examples to us. The recent liberal donation of Mr. Redpath to the library of this University was also mentioned, and the offer made to us by Dr. Carpenter of a large collection of shells. The want of an astronomical telescope in our Observatory was pointed out as a great deficiency, and a further want was that of a good botanic garden, and more especially a green-house for exotic plants. Elsewhere botanic gardens had been established very early in Universities. He instanced those of Oxford and Edinburgh as instructive cases in point. The time would also soon come, if it had not already arrived, when sub-divisions of some of the chairs of the faculty of Arts or aids to the profession, by means of tutors, would be imperatively demanded ; but this was now merely hinted at in general terms. Turning to that department of extension which related to the increase in the number of persons receiving collegiate education and degrees, he might say that this had been an object constantly kept in view ; and to secure it and cultivate a taste for liberal education, the fees had been reduced, free tuition had been granted to deserving students, residence in the College had not been insisted on, partial and occasional students had

been admitted, exemptions had been granted to professional students, and the students of affiliated colleges had been admitted to the examinations for degrees. Everything, in short, had been done, short of reducing the standard of actual education. They had, however, steadily refused to receive to examination for degrees persons whose training was not under the care and supervision of the University, this being a course which would necessarily lead to mere cramming rather than education, and they were not of opinion that in this or any other way the examining and teaching functions of the University should be separated. In order safely to extend the University examinations and to give them a provincial character it was necessary: 1st, that the examining body should have its centre in a strong and vigorous teaching body; 2nd, that it secure the services of practical educationers as examiners; 3rd, that it should require a thorough collegiate training on the part of candidates for degrees; 4th, that it should be independent of the narrowing influence of the smaller colleges, ever ready to lower the standard, under pretence of making it higher in some favourite department. The lecturer held that the system now matured and tested by some experience here, is the only safe and proper one possible in this country. An earnest appeal was then made to the friends of higher education for the endowment of scholarships in aid of deserving students. The lecturer described at length the munificent provision of this kind in Oxford, where £26,000 are given annually in such aids to students; in Dublin, where there are more than 200 such scholarships; and in Edinburgh, where there are 97 bursaries and scholarships. He then noticed the allowance of £1,500 annually for this purpose in each of the three recently established colleges of the Queen's University of Ireland; and to show the necessity of such provisions on this side of the Atlantic, he cited the aids of this kind given in Harvard and Yale, and in the University of Toronto and other Universities in British America. It should be borne in mind that the success of McGill University had been achieved in the absence of any of these stimuli to learning, which the revenues of the University could not afford, but which might well be furnished by the liberality of friends. Could they be obtained, a great stimulus might be given to the schools and to a better preparation for professional life, and both the extent and elevation of literary culture might be vastly increased. The lecturer then briefly referred to the relation of the University to the schools, and its efforts to aid and improve them, with the need of substantial aid, in order fully to carry out its plans in this respect. He closed by shewing the students and graduates present that, though they had good cause to think well of their Alma Mater, they should hold themselves bound, as her sons, to aid her prosperity and progress. It had been well for Canada if the work of establishing Universities had not been neglected until two generations of men had grown up without their benefits. Had it not been so, there would have been ten educated men in Canada for every one we have to-day, and the whole tone of society would have been elevated and assimilated to that of the Mother Country. This evil the University may now remedy as speedily as may be, and its full results will not be experienced until the success, and wealth, and influence of its own graduates begin to react on its prosperity. Hitherto our Canadian Universities have been like the seed which puts forth on its own substance its rootlets and tender leaves, and which cannot be truly flourishing or bring forth the fruits of its mature existence until it has fixed itself firmly in the soil and draws its nourishment from its bosom. Our work will not be complete and secure until benefactions and endowments begin to flow in from our own graduates. Then we may believe that we are truly rooted in the soil. In the meantime we must appeal to those men of enlarged mind who are sufficiently sagacious and hopeful to see in our present imperfect labours the germs of greater things to come.

The learned lecturer was loudly applauded at the close of his lecture; and the Chancellor having conveyed to him the thanks of the audience and expressed a desire that so excellent a paper would be given them in print,—the proceedings closed.

The students afterwards, according to custom, visited the houses of some of their Professors and some of the schools, cheering and serenading them.—*Montreal Gazette*, 24th Nov.

Short School Time, with Military or Naval Drill: in connection especially with the Subject of an Efficient Militia System.

The above is the title of an able lecture delivered before the Literary and Historical Society of Quebec, by E. A. Meridith, Esq., LL. D., Assistant Provincial Secretary for Upper Canada. We give the following extracts, which will be found to contain valuable information:

"In 1860 a Royal Commission was appointed in England to report

upon the state of popular Elementary Education in that country. The Commission included the names of the late Duke of Newcastle, Mr. W. Nassau Senior, and many other eminent educational reformers, peculiarly qualified for a work of such national importance. The results of the Commissioners' labors are contained in six bulky volumes, which form a valuable Repertory on the subject of National Education.

"Without at all undervaluing the importance of the labors of the Commissioners, it may be safely asserted that no part of their able and voluminous report is so suggestive, none so certain to bring about eventually a radical and permanent revolution in the whole system of education, as the short and unpretending communication, published in the appendix, addressed by Mr. Edw. Chadwick to Mr. Senior. It is to this paper of Mr. Chadwick, and to a subsequent explanatory letter from him on the same subject, also addressed to Mr. Senior, that I am mainly indebted for the facts and arguments which follow.

"The object of Mr. Chadwick's paper is to establish that in ordinary public schools, too much time is devoted to book instruction, too little to the physical training of the pupil; that the mind is overworked—the body insufficiently exercised; that book-work is generally prolonged much beyond the capacity of the pupil, to the injury alike of his physical and mental powers. He further asserts that it is demonstrable, nay that it has been demonstrated by actual experiment, that by employing in the physical training of the pupils, more particularly in systematic military and naval drill, a portion of the time, now uselessly or hurtfully misspent on books, incalculable benefits, physical, moral, intellectual and economical, will result to the persons taught, and, as a matter of course, also to the nation.

"The startling novelty of Mr. Chadwick's views, and the very magnitude of the benefits which he claimed as certain to follow from the general adoption of the plan of Education which he had inaugurated had a tendency to make most people incredulous of the project, if not to reject it altogether as utopian. The high reputation, however, of Mr. Chadwick, who had been for upwards of a quarter of a century an earnest and able laborer in the cause of social reforms, especially in matters connected with popular Education, would have amply sufficed with all thoughtful men to secure a respectful consideration for any opinion, however strange or paradoxical, which had received the sanction of his advocacy. But Mr. Chadwick did not rest satisfied with mere opinions or arguments in support of his views. He gave hard, unanswerable facts—facts sustained by the concurrent testimony of the most intelligent and experienced school teachers and of some of the most able military men in Great Britain.

"Mr. Chadwick's theories gave rise, as might be expected, to no little discussion in England, France and Germany, and other European countries, took up the question, and on this continent too, especially among our practical neighbors in the States, Mr. Chadwick's views attracted not a little attention. Here, and there too, but particularly in England, the system was put to the true test, that of actual experiment. And it may be asserted, beyond controversy, that all the discussions which have taken place upon the merits of Mr. Chadwick's system, all the experience of its working, wherever it has been fairly tried, have alike served to establish more and more its infinite superiority over the old régime.

"We shall now proceed to point out some of the evils, so far at least as over-mental work is concerned, of the system of education usually followed in our public schools, and we shall then explain the half-time system more in detail, noting the sort of physical training—military and naval drill—which Mr. Chadwick advocates; and lastly, the enormous benefits to the individual and the nation which may be expected to flow from the general adoption of the new system; under the last head will be described, at some length, the important bearing of the proposed reformation in our school system upon one of the great questions of the day in Canada,—the question, namely, of our national defences.

"*Present routine of Education at the Schools.*—First, then, let us consider briefly the routine of education at present pursued in the majority of our public schools, and examine what are its effects upon the mental and bodily health of those who are subjected to it.

"We shall here quote the words of a recent able writer in the States, who has discussed this subject with reference to the school system of the Union. His remarks, however, are as applicable to the school system of Canada as to that of the United States:—

"Six hours a day, for the most part, is the allotted school time in this part of the country. Occasionally we find it five, and as often probably seven. The rooms, with some exceptions, are badly warmed and badly ventilated, the thermometer ranging, in winter, from 55 to 80, and the air contaminated by the respiration of one or two hundred pairs of lungs, and the impurities that arise from a leaky, over-heated stove or furnace. The time not devoted to study is occupied in recitations, or exercises that require a considerable degree of mental

activity. To accomplish all the tasks, the regular school hours are seldom sufficient, and more or less time must be given to study out of school. It may be a single hour: it may be two, three or four. The time will be determined by the amount of the tasks, by the ambition, capacity or excessive anxiety of the pupil. With quick-witted children, who have no very strong desire to excel, and those who have neither desire nor capacity to excel, it is short. On the contrary, with the sluggish, but conscientious intellects, with the ambitious who strive for distinction, and the morbidly sensitive and timid, it is long."

"The author from whom I have quoted then gives several examples of the lessons learned in a day in several public schools taken at random, and adds:—

"These may be considered as average examples of the amount of work now put upon the youthful brain. They are the first that came to hand, but I have reason to believe that additional statistics of this kind would oftener show a larger than a smaller requirement. They will enable every one to judge for himself with sufficient accuracy, whether the strain to which they subject the mind is or is not compatible with the highest degree of healthy endurance.

Evening Study.—"In connection with this matter of out-of-school study, it must be considered that much of it is pursued in the evening, often until a late hour,—a practice more pernicious to the health, in youth or adult, than any other description of mental exercise. The brain is in no condition for sleep immediately after such occupation. The mind is swarming with verbs and fractions and triangles, and a tedious hour or two must pass away before it falls into a restless, scarcely refreshing slumber. Jaded and dispirited it enters upon the duties of the day with little of that buoyancy which comes only from 'nature's sweet restorer.'

"Thus it is that in all our cities and populous villages, the tender mind is kept in a state of the highest activity and effort, six or eight hours a day for several years in succession, with only such intervals of rest as are furnished by the weekly holiday, and the occasional vacation. Sunday can hardly be admitted among these intervals, for that day has also its special school, with its lessons and rewards. In other words it is subjected to an amount of task-work which, estimated merely by the time it requires, is greater than what may be considered a proper allowance to a cultivated adult mind."

Physical Evils Experienced.—But beside these evils to the mental health of children, resulting from the strain upon their mental powers, there is the physical evil resulting from the prolonged and unnatural physical restraint and sedentary confinement of children. We have high authority for stating that the enforced stillness of growing boys or girls in a school-room, however well warmed and ventilated, for five or six hours in the day, is a violation of the primary laws of physiology. The restlessness and inattention of the unfortunate little victims of our modern system, after a few hours' schooling, their irrepressible eagerness to escape from their restraint, notwithstanding all the artifices of the teacher to interest them, might of themselves warn us that we are doing violence to nature. "The chief question," writes Dr. Schreiber of Leipsic, is, "how are our children brought up? Is it according to the laws of nature? The answer is no, or we should not see so many children who were rosy and healthy before going to school, become pale and bloodless after attending school." Another writer says: "Nature commands children to play and romp, just as she does young colts and lambs. Pen them up in school, fetter their limbs, shut them out from God's sunshine and vivifying breezes, and what do we make them? Their physical integrity is certainly impaired, but is not their intellectual, nay, is not their moral integrity also affected by this unnatural and artificial system?" In their zeal for the mind, our modern educationists would seem to have altogether lost sight of the body. They forget that for the perfect man we must have the "*mens sana in corpore sano*," they consider not that intimate "consent between mind and body," by virtue of which the former must suffer, if the latter is neglected.

In our modern system of education the physical training of children has, for the most part, been left altogether to nature or to accident. The evil effects of this system have, therefore, shewn themselves, as might have been anticipated, more among girls than boys; because the former are less likely than the latter to seek for themselves those out-door sports and amusements which counteract, to some extent, the injurious effect of excessive mental labor and bodily confinement.

Proof of the Evil.—But it may be alleged that we have exaggerated the evil effects of our present school system on the mental and physical health of the children attending school; we may be challenged to produce proof of our assertion. Innumerable instances are adduced of persons who have gone through the ordeal without any appreciable impairment of their mental or bodily health, and hence the inference is somewhat hastily drawn that the system is innocent of the evils which we have laid at its door.

On this point it will suffice to cite the opinion of Dr. Ray, who,

from his well-known ability and large experience in mental diseases, is peculiarly competent to speak with authority upon the subject:

"The manner in which the evil (resulting from excessive mental application in schools) is manifested is not very uniform, but however various the results, they agree in the one essential element of a disturbed or diminished nervous energy. It rarely comes immediately in the shape of insanity, for that is not a disease of childhood or early youth. It impairs the power of concentrating the faculties, and of mastering difficult problems, every attempt thereat producing confusion and distress. It banishes the hope and buoyancy natural to youth, and puts in their place anxiety, gloom, and apprehension. It diminishes the conservative power of the animal economy to such a degree, that attacks of disease, which otherwise would have passed off safely, destroy life almost before danger is anticipated. Every intelligent physician understands that, other things being equal, the chances of recovery are far less in the studious, highly intellectual child than in one of an opposite description. Among the more obvious, and immediate effects upon the nervous system, are unaccountable restlessness, disturbed and deficient sleep, loss of appetite, epilepsy, cholera, and especially a kind of irritability and exhaustion, which leads the van of a host of other ills, bodily and mental, that seriously impair the efficiency and comfort of the individual.

"I have said that insanity is rarely an immediate effect of hard study at school. When a person becomes insane, people look around for the cause of his affection, and fix upon the most recent event apparently capable of producing it. *Post hoc propter hoc*, is the common philosophy on such occasions. But if the whole mental history of the patient were clearly unfolded to our view, we should often find, I apprehend, at a much more early period, some agency far more potent in causing the evil, than the misfortune, or the passion, or the bereavement, or the disappointment which attracts the common attention. Among these remoter agencies in the production of mental disease, I doubt if any one, except hereditary defects, is more common at the present time than *excessive application of the mind when young*. The immediate mischief may have seemed slight, or have readily disappeared after a total separation from books and studies, aided, perhaps, by change of scene; but the brain is left in a condition of peculiar impressibility which renders it morbidly sensitive to every adverse influence."

The failure of Clever Boys.—Is it not in consequence of this unduly severe mental toil together with the absence of proper physical training, that we find that many a boy of high promise, the delight of his parents, the *dux* of his school, is found to "unheseem the promise of his youth" and turn out a very common place, if not a dull and heavy man? Is not this the reason why so many intellectual and interesting children are like medlars rotten before being ripe, and does it not supply us with the true answer to Dr. Jolson's query: "What becomes of all those prodigies?"

Ancient and Modern System.—Before leaving this part of my subject, it may not be out of place to note very briefly the great and characteristic difference in this particular between the modern system of education, and that which obtained among some of the leading nations of antiquity. It is curious and instructive to mark the different degrees of importance assigned to the physical part of education in the ancient and the modern world.

"Among the Persians," we are told, "the entire education of the youth from their fifth to their twentieth years was confined to three things: riding, shooting with the bow, and *speaking the truth*." Here physical education is the chief, almost the only element, and mental education is not even mentioned. This is just such a system of education as we might expect to find among a people removed only a few degrees from the savage state. Advancing to times of civilization we come to the Greeks and Romans. Both these nations recognized, as we all know, the necessity and importance of mental education; and it formed accordingly, an essential part of their system of education. But still physical training was by no means neglected; on the contrary, it was regarded as an essential if not the most important part of the training of the youth. The very names, indeed, of the Greek and Roman school—*Gymnasia* and *ludi*—indicate places intended primarily for physical exercise.

Looking at the Greek and Roman plan of education we, with our modern views as to the paramount importance of intellectual culture, may feel inclined to impeach it as giving too much importance to physical training, to the disparagement or neglect of mental cultivation. But when we call over the bright muster-roll of poets, statesmen, orators, and historians which both of these nations produced, we must pause before we condemn the system of education which can point to such splendid results.

Mr. Chadwick refers with satisfaction to the fact that the authorities of the venerable University of Oxford have recently recognized the necessity of systematised bodily training in connection with the mental

labor of the University, and expresses the hope "that we may have from the university an example of the revival of a really classical education, an education founded on the precepts of Plato, Aristotle and Galen, which divided the public education into three parts, of which one was for mental training in the schools, one for bodily training in the gymnasium, and the third tuition in accomplishments, as music," &c.

First remedy for the Evil.—Having dwelt so fully upon the grounds upon which Mr. Chadwick, and other education reformers following in his track, have impeached the modern system of education, it is almost unnecessary to say that the remedies for the evil of which they complain are two-fold.

1st, A reduction to the proper limits of the time set apart in schools for book instruction; (1) and 2nd, Systematic physical training of the children; including in that training for the male portion of the school population, naval or military drill, or both.

The extent to which the time usually devoted in schools to book-instruction may be advantageously reduced is a question of detail which cannot probably be conclusively established until the half-time system has been submitted for a few more years to the test of actual experience. Mr. Chadwick, indeed, asserts and the testimony of the able and intelligent witnesses examined by him, fully bear out the assertion, that the ordinary school hours may be reduced one-half, without in the slightest degree diminishing the amount of book-instruction acquired by the pupil in a given time.

Limit of a pupil's attention.—Without, however, attempting, here, to fix with mathematical nicety the precise number of hours during which book-instruction may be profitably carried on in schools, it may, at least, be laid down as an axiom that such instruction ceases to be profitable, and should, therefore, be given up, when the pupil is no longer able to give his entire attention to what is taught. The instant the pupil becomes fatigued and tired, the instant he loses the power of *bright voluntary attention* (as one of the witnesses aptly calls it), it is time to stop the lesson. Everything done after that is either unprofitable or hurtful, or both. If a boy makes an extraordinary effort to keep his attention fixed on the subject before him, when his capacity of voluntary attention is exhausted, the mental effort is injurious. If, on the other hand, the boy merely makes believe that he is attending to his lesson when his thoughts are on his marbles or his tops, he is acquiring a dishonest *moral habit*, that of pretending to do what he is not doing; a fatal *mental habit*, too likely to cling to him through life, of looking at a book without thinking of what he is reading, a habit of dawdling over work; a habit the very opposite to that which is so invaluable in real life, that of doing earnestly the business of the moment; of thinking of it and nothing else for the time; in obedience to the teaching of the golden maxim "whatever thy hand findeth to do, do it with thy might."

Instruction through the Senses.—This is not the place to enforce the truths, which are now happily beginning to be at least dimly recognized: that children should be made to learn as much as possible by and through their senses, by their own powers of observation: that when it is possible they should be made to study natural objects, the things themselves, rather than the signs of things—words: that the senses themselves, as well as the reasoning powers, should be carefully cultivated; and that the right education of our senses, especially of the eye, not only contributes much to our comfort and enjoyment in life, but, in the case of the working classes, adds very materially to their usefulness and efficiency, and consequently to their value as workmen.

(To be continued.)

Twenty-ninth Convention of the Teachers' Association in connection with the Laval Normal School.

(Held 31st August and 1st September, 1866.)

FIRST SITTING.

Present: Rev. Principal J. Langevin; Mr. J. B. Cloutier, President; Mr. Louis Lefebvre, Secretary; Messrs F. X. Toussaint and Lacasse, N. Thibault, D. McSweeney, C. J. L. Lafrance, H. Rousseau, Ed. Carrier, C. Dufresne, L. T. Dion, G. Labonté, F. X. Pagé, J. B. Dugal, Frs. Fortin, P. Paradis, C. Robitaille, G. Tremblay, Frs. Simard, Wm. Taylor, F. Morrisset, Louis Blanchet, J. Cloutier.

(1) The official regulations for other public schools of Upper Canada do not prescribe the number of school hours, but it is expressly provided that they "shall not exceed six." They may be three, four, or five, at the discretion of the trustees.—Ed. J. of Edu.

The minutes of the last meeting having been read and adopted, Mr. C. Dufresne delivered a lecture on *Mechanics*, in which he explained the different applications of the lever, illustrating the subject by means of geometrical demonstrations.

The meeting then adjourned to the following morning.

SECOND SITTING.

Present: Rev. Principal J. Langevin; Mr. J. B. Cloutier, President; Mr. Louis Lefebvre, Secretary; Messrs F. X. Toussaint and Lacasse, N. Thibault, D. McSweeney, Ed. Carrier, C. Dufresne, L. T. Dion; G. Labonté, F. X. Pagé, J. B. Dugal, Frs. Fortin, C. Robitaille, Frs. Simard, Wm. Taylor, F. Morrisset, Louis Blanchet, J. Cloutier, L. Fréchette, P. A. Roy, F. Turgeon, P. Provençal, C. Gagné, C. Lamonde, S. Laroche, F. X. Gilbert, C. Dion, Jos. Létourneau, W. Fortin, H. Tremblay, Z. Lapierre, H. Rousseau, N. Ryan.

The election of office-bearers for the ensuing year resulted as follows: President, F. X. Toussaint; Vice-President, Ed. Carrier; Secretary, L. P. Dion; Treasurer, A. Lacasse; Committee, C. Dufresne, S. Fréchette, P. A. Roy, Frs. Fortin, Louis Lefebvre, C. Dion, J. B. Cloutier, J. B. Dugal, G. Labonté.

Mr. Cloutier then lectured on *Botany*.

Mr. Lacasse read an essay on the digestive system, elucidating the subject with the aid of illustrations.

The following question was debated: *What is the best method of teaching the History of Canada in our schools?*

The President recommended the adoption of the suggestions made on the subject by Principal Langevin in his excellent text-book on Teaching, and gave the teachers some very good advice touching the method according to which the history of Canada should be taught in the common schools, insisting that care must be taken not to create confusion in the pupils' notions of history, but that they should be taught to distinguish between the principal events and those of subordinate importance; and if circumstances required that the lessons should be abridged, it was the duty of the teacher to explain the leading incidents. This could be done easily by making use of a chronological table of the most important events in the history of Canada, and then by requiring the pupils to give the date of any particular event from memory, or reversing the process. In conclusion he made some observations on the various methods of teaching the history of Canada most proper to the different grades of schools.

Messrs. J. B. Cloutier, Louis Lefebvre and Joseph Létourneau promised to prepare papers for the next convention—the former having announced *Botany* as the subject of which he would treat.

Mr. Lacasse recommended the favorable notice of the Association a series of copy-books published by Mr. Eusèbe Senécal, Montreal; and invited the teachers to adopt them generally, as they offered the combined advantages of practical and theoretical exercises at the same time. All the copy-books belonging to this series contain well-graduated examples in French, and of a superior text; moreover, instructions in which are laid down the principles of calligraphy and the method to be followed in correcting defects of penmanship, will be found on the inside of the cover of each book.

Mr. C. Dufresne moved, seconded by Mr. F. Morrisset, that the thanks of this Association be tendered to the out-going Office-Bearers for the able manner in which they had acquitted themselves of their duties.

The following subject will be proposed for discussion at the convention to be held in January next: *What advantages does Algebra offer in our model schools and academies; and to what extent should this branch of learning be taught?*

The convention was then adjourned to the last Friday of January, 1867.

Notices of Books and Recent Publications.

MAURULT.—*Histoire des Abénakis, depuis 1605 jusqu'à nos jours. Par l'Abbé J. A. Maurault.* From the Printing Establishment of the *Gazette de Sorel*, and for sale by all the booksellers in Canada.—Svo, x-631-vi pp. Price \$1.50.

The remnant of the Abénakis, the descendants, as we are told, of the once powerful tribe of Canibas, now numbers but 350 souls in Canada. The allies of France against the English, these savages took an active part in the early days of colonial warfare, and many pages of American history record the sanguinary deeds of their warriors.

The word *Abenaki*, signifying in the language of the Algonquins, "Land of the Rising Sun," indicates plainly enough the direction whence came the people to whom it has been applied. The Abenakis

occupied Maine, and extended into New Hampshire, New Brunswick, and along the borders of Nova Scotia, but they did not occupy any part of Canada until 1680, the date fixed by the author as that at which their immigration to the banks of the St. Lawrence began.

The touching recital of the settlement of the tribe in the land of their adoption cannot fail to awaken deep interest in the mind of the reader, conscious as he will be that the time is drawing near when the last of a fugitive people shall have passed away. Without aiming at literary excellence, the author has produced a work whose intrinsic merits will not fail to be fully appreciated.

BORTHWICK.—The Battles of the World; or Cyclopædia of Battles, Sieges, and Important Military Events, the Origin and Institution of Military Titles, &c., alphabetically arranged. With an Appendix, containing a Chronological Table, from the Creation to the present day. By Rev. J. Douglas Borthwick. Montreal: 1866. Published by John Muir, and Printed by John Lovell.—8vo, viii-500 pp.

In the words of the Author, this volume "embraces the whole of the principal battles, by land and sea, that have ever taken place, from the earliest recorded action of which we have in history any distinct and reliable information, to the very last event of military importance which has transpired previous to going to press."

It will be seen by the following extract, that the Rev. Mr. Borthwick has nobly vindicated the martial spirit of his countrymen from the aspersions cast upon them by careless writers in the heat of newspaper debates:

"It has been said that Canada was neither a military nor a literary colony. The events of the last few weeks fully prove to the contrary, regarding her military ardor. Her sons nobly responded to the Government call: and had necessity required, as fair and fully equipped an army would have trod the battle-field as ever stood arrayed before an enemy;—and these sons of hers were scions of all stocks—from the son of the learned divine or lawyer, to the peasant's only boy. As regards her literary fame she has produced works which will compare favorably with sister colonies, and may rank side by side with the Mother Country. To refute the assertion, too, may be here remarked, what an agent for some of the largest publishers both of England and the United States said not long ago: "In the last three months he had sold twenty complete copies of one of the largest and best Encyclopædians, and nearly double that number in parts," added to the hundreds of other publications which are being scattered broadcast over the country, prove that the Canadians are cultivating their minds as well as their broad acres."

TAYLOR.—Portraits of British Americans, by W. Notman; with Biographical Sketches; Edited by Fenning Taylor, Deputy Clerk, and Clerk Assistant of the Legislative Council, Ottawa. Printed by John Lovell, Montreal, 1866.

Part X of the above beautifully adorned publication is received. It contains photographs of the Hon. George Brown, M.P.P.; Major Campbell, C.B.; Hon. F. Evanturel, M.P.P.; Hon. John Young, and Hon. Hector Louis Langevin, executed in the highest style of art and accompanied with biographical sketches, by Mr. Taylor, that offer a rare opportunity to form an acquaintance with the prominent men of British America.

LA REVUE CANADIENNE.—Montreal: E. Senécal, Publisher.

The number for November contains the continuation of the narrative entitled: *De Québec à Mexico*, by Faucher de St. Maurice; *Entretiens sur Naples*, by J. S. Raymond; *Les Débuts d'un Héros*, by an anonymous pen; *La "Vega" de Grenade et l'Alhambra*, by L. R. Masson; *Un mot sur la Photographie*, by Hector Berthelot; *Nuit d'Été*, by Benjamin Sulte; *Mon Village*, by Eustache Prud'homme; Book Notices, by E. Lef. de Bellefeuille and Joseph Royal, and a Monthly Summary by S. Lesage.

ASTIE.—*Depuis l'Établissement des Premières Colonies jusqu'à l'Élection du Président Lincoln*; By J. F. Astie. Paris.—8vo, 2 vols.

The author appears to be well read in the history of the origin of the American Colonies, and his narrative will be perused with interest, especially by French readers seeking information on the subject.

DEMAZE.—*Prisons et Grâce en France, d'après des textes inédits*. Paris; 1866. Plon.

Mr. Demaze has written several books on the same subject, among which we may instance *Le Château de Paris*, and *Les Curiosités des Parlements de France*. The present work is a continuation of the two first, and gives a graphic account of the cruelties which have been practised at different times in the prisons of France.

TENNEY.—A Grammatical Analyzer; or, the Derivation and Definition of Words, and their Grammatical Classification. For the use of Schools and Academies. By W. S. Tenney, New York. D. Appleton & Co.; 1866.—8vo, 227 pp.

BAIN.—English Composition and Rhetoric. A Manual. By Alexander Bain, M. A. American Edition, Revised. New York. D. Appleton & Co.—8vo, 343 pp.

The above works will, we have no doubt, prove of much value to schools and colleges; the last especially should be in the hands of every student.

MONTHLY SUMMARY.

EDUCATIONAL INTELLIGENCE.

—The system of mixed education in Ireland, which promised to confer great benefits on the sister island, seems likely to receive a severe blow from a measure which was proposed, and indeed in a manner carried, by the late Government. We refer to the new Charter which has been imposed on the Queen's University. It is stated, in a letter to the *Economist* newspaper, that the appointment of the six new members of the Senate of the Queen's Colleges, who made up the requisite majority of two, when the governing body agreed to accept the new Charter, were appointed by the late Government *after they had resigned office*. We believe there is no doubt whatever that this is a fact; and if so, we may expect to have the whole question once more brought before Parliament.

It appears that the members of the late Government, some time before the last election, not only promised to give the Queen's University the power of granting degrees to students who had not been educated at the Queen's Colleges, but gave those interested in the matter to understand that they would reform or remodel the Senate in a way that would secure the full confidence of the heads of the Roman Catholic Church. It will be remembered, that since the death of that mild and liberal prelate, Archbishop Murray, the most influential Roman Catholic bishops in Ireland have been altogether opposed to a system of mixed education in that country. The vision of the halcyon days which Sir Robert Peel hoped to see, when the Roman Catholic and Protestant student should sit beside one another on the same bench, regardless of differences of creed, has now apparently passed away; and if the measure of the late Government be not annulled by Parliament, we can hardly hope that it can ever be realised. It is well known that the late Ministry, at the commencement of the last Session, pledged themselves, by the mouth of the Chancellor of the Exchequer, to take no steps whatever in the matter without duly consulting Parliament. This pledge has undoubtedly, for some reason or other still unexplained, not been kept; and a supplementary Charter was issued by the late Government, just before leaving office, which gives the Queen's University power to confer degrees on persons not educated at the Queen's Colleges. The heart and front of the offence is however, to use the language of the *Times*, the fact that the Government, "after their removal from office, packed the Senate of the Queen's Colleges by the addition of six new members—all persons who were quite certain to vote in the direction which the Government wished." Surely, before making so radical a change, the opinion of so staunch a Roman Catholic as Sir Robert Kane should have had some weight; and he has all along most strenuously urged that the Queen's University should not imitate the London University, which grants degrees to all persons, irrespective of the manner and place of their education. The new Charter is moreover stoutly opposed by a vast majority of the graduates of the University itself, who have gone so far as to memorialize the Lord-Lieutenant, and have begged him not to sanction any proceedings under the Supplementary Charter until the whole matter has been laid before Parliament. Application, it is said, is also to be made to a court of law to ascertain whether the Senate has not already exceeded its powers, in altering and tampering with the constitution of the University without the assent of Convocation.

—In whatever way this matter ends, it will be sure to create some bitterness in a country constituted like Ireland, and prove "a heavy blow and great discouragement" to the cause of mixed education, from which so much good has already resulted.—*Educational Times*, London.

—The *Register of Convocation*, just published in accordance with the provisions of the Oxford University Act, shows the number of resident graduates to be 260, against 262 this time last year. No great changes have occurred in the proportions contributed by the different colleges. The following colleges show a slight increase:—University, Oriel, Queen's, New, Lincoln, St. John's, Wadham, and Pembroke; while there is a slight decrease at Balliol, All Souls, Magdalen, Corpus, Christ Church, Trinity, Worcester, and New Inn Hall. The number remains the same at Merton, Exeter, Brasenose, Jesus, St. Mary Hall, Magdalene Hall, St. Alban Hall, and Edmund Hall. Christ Church furnishes 34 members, Magdalen 23, Exeter 16, New College and St. John's 15 each, Merton and Brasenose 14 each, Queen's 13, Worcester 12, Balliol and Lincoln 11 each, Jesus 10, University, Oriel, and Trinity 9 each, Wadham and Magdalen Hall 8 each, All Souls, Corpus, and Pembroke 7 each, St. Mary Hall 3, Edmund Hall 2, New Inn Hall 1, and St. Alban Hall 1.

The statistics of the Oxford and Cambridge freshmen this term show as usual a vast preponderance in favour of Cambridge, whose aggregate up to the middle of October was 551, against 289 at Oxford, the latter num-

ber being distributed over the various colleges and halls as follows:—Balliol 16, Brasenose 15, Christ Church 21, Corpus 11, Exeter 24, Lincoln 14, Magdalen 7, Merton 11, New College 14, Oriel 9, Pembroke 14, Queen's 22, St. John's 21, Trinity 9, University 16, Wadham 15, Worcester 14, Magdalen Hall 8, St. Edmund Hall 8, St. Alban Hall 6, St. Mary Hall 7, Jesus College 7. The entries at Oxford, although far below the sister University in point of numbers, are quite as numerous as usual.—*ib.*

—From the annual Report on the state of Education in Russia for the year 1865, presented to the Emperor by the Council of Public Instruction, we learn that Russia has now six Universities in active operation—St Petersburg, founded by Peter the Great; Moscow, founded in 1755 by the Empress Elizabeth; Wilna, which in 1842 was transformed into the University of St Vladimir; Dorpat, founded in 1632 by Gustavus Adolphus, suppressed in 1704, and revived by Alexander I. in 1802; Kasan and Kharkoo, founded in 1804 by Alexander I. Each University has four faculties—History and Philology, Physical and Mathematical Science, Law, and Medicine. Each University has fifty professors with assistants. The students were thus distributed in 1864:—St Petersburg, 623; Moscow, 1515; Kasan, 325; Kharkoo, 523; St. Vladimir, 578; Dorpat, 660; total, 4084. Of these, 847 were bursars, costing the Government upwards of £25,000 per annum. The Gymnasias, or secondary Schools of Russia, resemble the Great Schools of England, and are intermediate between the Elementary Schools and the Universities. In 1864, they were 95 in number, and were attended by 28,429 pupils of all ranks and religions.—*ib.*

—The Rev. Dr. Ryerson, Chief Superintendent of Education for Upper Canada, having obtained leave of absence until June, 1867, left Toronto in the early part of this month to visit the United States and Europe. The object of this tour is the re-establishment of his health and the improvement of the system of Public Instruction in Upper Canada. He has been authorized by the Government to add to the collection of models and works of art for the proposed Provincial School of Art and Design, and to engage the services of a properly qualified master from the graduates of the Government Schools of art and design in England, to take charge of the same. He is also authorized by the Provincial Secretary to visit and collect information from the best institutions in the United States and in Europe for the education of the Deaf, Dumb, and Blind, to be made available in the proposed Schools for these persons, to be established by the Government in Upper and Lower Canada. In a recent letter from Dr. Ryerson while visiting this class of institutions in the United States, he says, writing from Cincinnati: "The institutions of the Deaf, Dumb and Blind in these States are worthy of all admiration. I do not regret the trouble I have taken to visit them. In Illinois, the institutions are free for seven years—boarding as well as instructing the pupils, whether the parents are rich or poor—and they are admirably conducted. . . . I am making pretty copious notes." Dr. Ryerson sailed for England, from New York, in the Inman Steamer *City of Boston*, on the 23 instant.—*Journal of E., U. C.*, for Nov.

—The Bishops Blanchet and twenty-four members of their clergy left for Oregon and Nesqually Territory on the 6th November, taking with them four schoolmasters trained in the Jacques Cartier Normal School, who are to be employed among the Indians of that remote country. The devotion which leads these adventurous young laymen so far from their homes to exercise an arduous calling in the midst of the hardships and privations of a new country is alike honorable to them and the school which sends them forth. Their names are, Alphonse Valois, Julien Provost, Pierre Provost, and J. A. Beaulieu.

SCIENTIFIC INTELLIGENCE.

—A post-mortem examination of an officer at Tournay, France, recently disclosed a complete reversion of the internal organs, the heart being on the right side, the liver on the left, etc.—*Herald of Health.*

—The fossil remains of a gigantic bird, estimated to have stood 25 feet high, have been discovered in some beds of limestone at Nelson in New Zealand. The remains consist of a head, minus the lower jaw, the dimensions of which are three feet four inches by one foot ten inches, and a body, minus the neck. The thorax is highly developed, but rather fat; the tail long, and body bulky. The wings, which are well defined, are large and close to the body, and are separated by a saddle or cradle, very graceful in form; the feathers covering the body are of large size, and lying close.—*American Educational Monthly.*

—A case has recently occurred to Mr Paget (*Lancet*), in which death of a portion of the bone of the lower jaw was occasioned by the introduction of the oil of tobacco into the cavity of a carious tooth, for the purpose of curing toothache. The patient was an Italian sailor who used the oil from the stem of his pipe. Mr Paget, in remarking upon the case after having removed several sequestra, said:—"The case well illustrates a source of danger which is not generally recognized. The practice of smoking is very wide-spread, and foul pipes and carious teeth are very common. Every smoker of a pipe has been disgusted now and then by sucking into his mouth a few drops of the highly pungent and nauseous

product of the combustion of tobacco. In the action of smoking the tip of the tongue ordinarily receives this deleterious fluid, and is very much blistered in consequence. Were it not for the tongue one can readily imagine that hollow teeth would often receive this fluid: with what amount of risk the case before us well shows. It is well known that, for phosphorus to excite the inflammatory action which so often affects the lucifer-match workers, the fumes must be applied to a raw vascular surface in immediate connection with the nutrition of bone. This almost always happens through the medium of a carious tooth. There is no reason to suppose that tobacco oil would set up inflammation except under similar circumstances. It is, however, very probable that some cases of acute necrosis of the lower jaw of obscure origin may have really originated from the accidental poisoning of the tooth-pulp by this liquid, and the possibility of this source of disease should be borne in mind.—*Medical Record.*

—On Monday, July 30, Mr Field received a despatch of congratulation from Mr. Ferdinand de Lesseps, the projector of the Suez Canal. It was dated at Alexandria, in Egypt, the same day, at half past one o'clock p.m., and received in Newfoundland at half past ten a.m. Let one look at the globe, and see over what a space that message flew. It came from the furthest East, from the land of the Pharaohs and the Ptolemies; it passed along the shores of Africa, and under the Mediterranean, more than a thousand miles, to Malta; thence it leaped to the continent and shot across Italy, and over the Alps, and through France, and under the Channel, to London; then across England and Ireland, till from the cliffs of Valentia it struck straight into the Atlantic, darting down the submarine mountain which lies off the coast, and over all the hills and valleys of the watery plain, resting not till it touched the shores of the New World, where the great sea serpent, from its length suggesting the idea of the "serpent of all eternity," rushing straight upon the land, climbs up the rocks of Newfoundland, erects its crest above the waves, and darts out its fiery tongue. Yet there is no poison under its lips. At the gentle stroke of man, it lays its head submissively in the lap of science and wags its tongue of flame licks the hand of its master. That despatch, in its morning's flight, passed over one-fourth of the earth's surface, and so far out-stripped the sun in his course that it reached its destination three hours before it started!

Who shall say that the age of miracles is past?—*Exchange.*

—*New Textile Fibre*—If, as soon as its flowers have been gathered, the stalks of the hop-plant are made into bundles, and well steeped in water, then dried in the sun, and beaten like hemp, a fibre will be obtained which after being combed, is admirably adapted to being spun into thread, that furnished by the larger stalks being well suited for cordage or twine. This is very important, as the flower is not in any way interfered with.—*Intellectual Observer.*

—M. Beullard informs the French Academy that the leaves of the teazle *Dipsacus sylvestris*, pounded, and applied to wounds and bruises, has a powerful action in the prevention and cure of gangrene. He removes mortified flesh, washes the wounds in chlorurated water and then applies a poultice of the leaves. He states that he used this remedy with success for fifteen years.—*ib.*

—*The Spontaneous Generation Controversy* still occupies the French Academy. Recently, M. Al. Donné, who formerly took the opposing side, adduced experiments on the affirmative side. He punctured the shells of eggs with a red-hot wire, enveloped the eggs in cotton that had been heated, with a view to destroy germs, and then immersed them in hot ashes. In the course of three weeks or a month he found moulds growing on the organic matter of the egg. M. Pasteur pointed out that the precautions to exclude germs of small organisms were by no means sufficient, and hence the experiment must be rejected.—*ib.*

—*The Cholera Mist*.—Should the blue mist described by Mr. Glaisher still appear in any part of the country, it is most desirable that the organic particles it may contain should be accurately examined by the aid of the microscope. Mr. Glaisher and other observers have detected some small bodies of a blue colour, the nature of which has not, we believe, been thoroughly investigated. Microscopists should endeavour to ascertain whether such particles exist in sufficient quantities to account for the colour, and whether they represent known forms of sporules.—*ib.*

—*An Apple Congress*.—The French Pomological Congress began its eleventh session at Melan on the 14th September. Its object is to induce the rejection of all mediocre and bad sorts of apple-trees, and to promote the cultivation of the finer and more profitable kinds. It is expected that the export of French apples will be extended by these measures; and we have need, as Mr Roach Smith has pointed out, of something of the sort in this country, where the supply of good apples is below the wants of the population.—*ib.*

—The fiery shower foretold for the night of the 12th-14th Nov. in this year, was seen in full splendour yesterday morning (14th), between the hours of 12 and 2. From about 11 o'clock occasional meteors might be

seen gliding along the sky from east to west, but these were only the *avant-courriers* of the great legion that followed at a later hour. The numbers increased after 12 o'clock with great rapidity. From Paddington-green, a fairly open position, 207 meteors were counted between 12 and 12 30, and of these the greater number fell after 12 20. The next hundred was counted during the six minutes that succeeded the half-hour. Soon after this it became impossible for two people to count the whole that were visible from this station; and doubtless from positions with a purer atmosphere, and a wider horizon, the spectacle must have been one of surpassing splendour. Indeed, from a window at Highgate looking N.N.E., but with a circumscribed view, an observer counted 100 meteors in the four minutes between 12 32 and 12 36, and no less than 200 in the two minutes between 12 57 and 12 59.

As the constellation Leo rose over the houses north of Paddington-green and cleared itself of haze, the divergence of the meteor-paths from a point within it became obvious, not merely in the directions of the streams that shot from or through the zenith, but in those that left their phosphorescent-seeming trails in the sky towards every point of the compass. Sometimes these rocket-like lines of light would glide out like sparks; but with the distinctive features, first, of those lingering lines of illuminated haze in their track, and secondly, of their rarely appearing as if they originated in the region of the sky from which their courses evidently diverged. Sometimes the meteor was orange and almost red in its colour, whereas the luminous trail seemed almost always, probably by contrast with the surrounding light, of a bluish hue. In one splendid instance the trail, after having nearly disappeared, together with the rocket-head that had produced it, became again lit up and visible coincidentally with a sort of resuscitation of brightness in the body of the meteor. Now and then a little illuminated puff-ball would appear in the middle of the constellation Leo, generally more or less elongated or elliptical in form, as it seemed to be more or less distant, and at the same time convergent from an imaginary point that seemed about 3° S. by E. of the star Leonis: and one, as near as could be estimated to such a point, was simply a star that waxed, and waned, and disappeared as one looked at it. Sometimes a minute point of light, like a *mesfly*, would dart with an angular jerking motion and zig-zag course hither and thither, but still as if away from Leo.

Only about three meteors were seen during an hour and a half to take a direction manifestly opposed to that of these diverging multitudes. The meteors which shot towards the western horizon seemed more brilliant and larger in their courses than those which dropped into the eastern; indeed, very few seemed even to reach the roofs of the houses from behind which Leo had arisen. This was possibly only an effect of perspective, or it may have arisen from the curtailment of the view. As regards the long lines of light that lingered in the paths of the meteors, generally they were more dense and brightest towards the middle of the visible path of the meteor, while the meteor itself seemed brightest just before its extinction, an effect possibly due to an obscuration in the middle of its course by matter thrown off from it. The meteors seemed also to lose velocity as they went, but this might have been the result of perspective in those passing through the zenith.

One singular feature in these celestial fireworks was the rapidity with which the *maximum* of frequency came on and went off again. About 2 o'clock the meteors seemed to have become as scarce as they were at 12, though they continued in smaller numbers till the verge of daybreak. From half-past 12 or a quarter to 1 until about a quarter-past or half-past 1, the heavens seemed veritably alive with stars rushing in many parts of the sky, in groups of two or three together or in immediate succession on each other, seeming as though racing over the blue vault, except that their courses so rapidly diverged.

The cloudless beauty of the night near London was a happy circumstance, allowing the forecasts of the astronomers to be signally verified, having enabled them to take such a store of facts regarding the nature of the light and of the motion of meteors, and so many simultaneous observations of them in different parts of our islands, as may lead to some accurate knowledge of their laws and their nature, and add one more chapter to the sublime volume of astronomical physics.—*London Times*.

— *The Terrestrial Dark Lines of the Spectrum*.—From the moment that Wollaston observed that certain rays are wanting in the solar spectrum, their places being occupied by dark lines or bands, philosophers have been occupied in attempting to investigate their origin. These attempts have been in a great degree successful. They arise from a cause which, applied to spectrum analysis, enables us not only to detect the presence of elements so minute in quantity as to elude the most careful researches of the chemist, but to pronounce with certainty regarding the elementary substances of which the most distant stars are formed. But there is one great source of uncertainty in the application of spectrum analysis to the purposes of astronomy, the difficulty of determining whether the dark lines in the spectrum of a heavenly body belong to the light emitted by that body, or have been caused during the passage of that light through our atmosphere. This difficulty is now in a fair way of solution, if it is not already resolved. M. Jansen has proved by the most satisfactory experiments, that a large portion of the dark lines of the solar spectrum are terrestrial, and are due to the vapour of water. When, in 1864, he ascended the Faulhorn, he found that these dark lines became feeble in

proportion to the height above the level of the sea; while, on the contrary, when the light of firewood, which affords a continuous spectrum, was made to pass through several miles of air in contact with the Lake of Geneva, and therefore saturated with its watery vapour, all the dark lines of the solar spectrum were produced. And he ascertained, that with a given altitude of the sun above the horizon, the higher the dew point, the more distinct the dark lines produced in the spectrum, scarcely any being perceptible on very dry days. He verified these facts by a very effective apparatus. Having placed an iron tube of considerable length, in a box, and filled the vacant space round the tube with sawdust, to prevent radiation of heat, he transmitted the light of sixteen gas-burners, placed in a line which was a prolongation of its axis, through this tube, and a continuous spectrum was thus produced. But when he filled the tube with vapour, supplied by a steam boiler, and then transmitted the light, nearly all the dark lines were reproduced, the spectrum obtained corresponding with that formed by sunlight when the sun is very near the horizon. A detenuation of the lines produced by the earth's atmosphere renders observations regarding the constitution of the heavenly bodies founded on spectrum analysis more reliable. It also enables us to find the amount of moisture in portions of the atmosphere inaccessible to us. The solar lines predominate in the green, the blue, and the violet portions of the spectrum; the atmospheric in the red, the orange, and the yellow, being ten times more numerous than the solar lines in the same places.—*Intellectual Observer*.

— *Light of Nebulae*.—The *Philosophical Transactions* contains a very important paper by Mr Huggins on the spectra of some of the nebulae, in which estimations of the amount of light emitted by some of these bodies is given. Mr Huggins took for his standard of comparison a sperm candle of the size known as sixes. This was placed at a certain distance, and its light reduced by a neutral tint glass to 1-377 of its original intensity. It was then found that nebula No. 4628 gave a light equal to 1-1608 of that emitted by the unscened candle, the annular nebula in Lyra was equal to 1-6032, and the dumb-bell nebula to 1-19604 of the same standard.—*16*.

— *Spiders and Earwigs*.—An illustration of the tact and skill of the spider in dealing with a dangerous foe, may be obtained by putting an earwig into the web of the *Lycra diademata*, common in all gardens. On perceiving the earwig, the spider advances cautiously, and when near the creature turns her abdomen towards it, and shoots out a sheaf of threads which immediately adhere to the earwig. She then pats him round and round as if she were roasting him on a spit, and in the course of a few seconds he is effectually rolled up in a silk mummy cloth, from which there is no escape.—*16*.

— *Soap Beans of China*.—*Comptes Rendus* contains a paper by M. Payen on the beans of a plant belonging to the genus *diadema*, which are used instead of soap in many provinces of China. The Chinese remove the outer skin with a knife, and then rub the bean against wet linen which they wish to wash. A rinsing completes the process. The pericarp, which is dry in most beans, is of a fleshy character, and contains *saponine*, besides many other substances. M. Payen also found in these beans a gelatinous substance, differing from pectin, pectose, etc., and which he calls *diulose*.—*16*.

— The telescope, which resolves nebulae into stars, and stars into suns, which peoples the firmament with myriad worlds, is not more wonderful than the little microscope which reveals "the grand immensity of littleness." When it came into man's possession, it was as though a second Columbus had appeared, announcing the existence of a new world; and not one merely. The microscope reveals in a single drop of water a globe, peopled, according to Ehrenberg, with five hundred millions of living creatures, different from everything which man has seen before.—It shows us in every bit of clay or stone, every leaf, bud and flower, a world crowded with its busy multitudes. The substance of these animalcules is usually so transparent, that the internal structure is visible,—even the act of digestion can be watched, and the food traced from its mouth to its passage into the internal cavities. The eggs also can be seen within the bodies. Thus the microscope has silently overthrown man's theories for the explanation of vital phenomena, and has furnished materials for their true elucidation.

The microscope teaches man the structure of trees, and the uses they best serve in the affairs of life. By it he learns the elements entering into particular soils, and is enabled to supply those fertilizers necessary to the production of the desired crop. The accuracy with which the microscope detects counterfeit bills and forged manuscripts, adulterations in food and liquors, renders this instrument a valuable ally of justice.

In connection with this celebrated instrument, the following curious anecdote is related. Some years since in England, barrels containing gold dust were emptied of their precious contents and filled with sand. The party robbed not being entirely satisfied with the exchange, submitted the case to the microscopist, Ehrenberg. The latter, by examining with the microscope specimens of sand from the several stations on that part of the road traversed by the barrels, was enabled by the peculiarities of its

appearance to designate the place at which the barrels had been filled. The officers of justice were thus put upon the right track, and the thieves captured.

In our own country, not many years since, a most curious and interesting case of murder was decided by this wonderful silent witness. The individual towards whom the whole circumstantial evidence was pointed as the guilty man, claimed that the bloodstains found on a knife acknowledged to be his property, were from a lamb which he had killed the day before. The microscope was brought to bear upon the instrument by men known to be ignorant of the circumstances of the case. The blood-stains were not only found to be those of a human being, but the microscope revealed on the blade, what had been imperceptible to the naked eye, a secretion peculiar to the glands of the throat. Stranger still, it pointed to cotton fibres in the blade of the instrument. "The knife," said the microscopists in their report, "has been used in cutting through cotton into the neck of a human body." Now listen, and wonder at the power of this wonderful silent witness: the murdered man had been found with his throat cut through the neck band of his cotton shirt. The evidence was as conclusive as though a voice from the clouds had proclaimed in tones of thunder: "Thou art the man."

A few years ago, a man under trial for murder in Western New York asserted that blood-stains on an axe found in his possession were from a dog which he had killed. The case was referred to Prof. Hadley, of Buffalo, who was purposely kept in ignorance of the circumstances.—Submitting the blood stains to the microscopic inspection, he decided that they were from a dog, thus confirming the poor man's testimony.

You remember how you were startled, a few years since, by a voice from the scientific world, claiming that the microscope could detect the image of the murderer on the retina of the victim's eye, thus referring the matter to a witness that cannot be bribed—to a judge that would not hesitate to condemn the duke in the heart of his duchy, or the king in his purple.

The microscope is a peace maker, a settler of disputes. Some hundred years since, it was asserted by a learned savant of France, in contradiction to history and tradition, that the wrappings of the Egyptian mummies were of cotton. From this sprang a curious and voluminous discussion pro and con. In the midst of these philosophical discussions, some man conceived the idea of appealing to the microscope, when the question was forever settled. It was then discovered that the fibres of the cotton was composed of transparent tubes, while those of the flax were jointed like cane. The fibre of the mummy cloths were shown to be jointed as in the flax of the present day.

NECROLOGICAL INTELLIGENCE.

—The death is announced from Germany of Herman Goldschmidt, the well-known artist-astronomer, whose name is identified with no less than fourteen of the small planets between Mars and Jupiter, viz.,—Lutetia (1852), Pomona (1854), Atlanta (1855), Harmonia (1856), Daphne (1856), Nyra (1857), Eugenia (1857), Pseudo Daphne (1857), Doris and Pales (1857), both discovered on the same evening, Europa (1857), Alexandra (1858), Danae (1860), and Panopea (1861). M. Goldschmidt was born at Frankfurt in 1802, and studied under the celebrated artists Schnorr and Cornelius in Munich. In 1834, he went to Paris, where he followed his profession. In 1847, he turned his attention to astronomy, and his discoveries obtained for him the Gold Medal of the Royal Astronomical Society of London, besides other marks of recognition from the Academy of Sciences in Paris, to which body his discoveries were usually first communicated.—*Educational Times*.

—The old veterans of Canada are fast going to "that bourne whence no traveller returns." Lately the funeral of one of these veterans wended its way slowly through the streets of this city. The body that was being conveyed to its last earthly resting place, was all that remained of Hugh Byres, of Black Rapids, a man who, as bugler, sounded the charge at Lundy's Lane, the attack at Fort Niagara, and took part at the battle of Queenstown Heights, where the noble Brock fell fighting for his country. Nothing delighted the veteran loyalist, whose remains were on Saturday followed to the grave by a large number of friends and neighbors, so much, during his declining years, as recounting the incidents of his younger days. Though in declining years his loyal heart beat high, and his failing limbs gained strength as he heard and thought of the dastardly attempts upon Canada by the Fenians, and it was not without strong persuasion on the part of his friends that he could be induced not to enrol himself as a Volunteer and go forth once more to fight for the liberty and integrity of his country. The deceased had lived for upwards of half a century in Canada, and at the close of an eventful life, during which he had secured the esteem of very many, his remains were interred in the Roman Catholic cemetery here. May the spirit which animated these old veterans exist for ever, and become intensified by years in the breasts of their descendants.—*Ottawa Citizen*.

—The Death of the late Mr. Eric Dorion, M.P.P. for Arthabaska.—We greatly regret to announce the sudden death of Mr. Eric Dorion, which happened on Friday at the Village called *L'Avenir*, of disease of the heart. Mr. Dorion began public life very early, as the conductor of a newspaper

published with the title—*L'Avenir*—which he afterwards gave to the village where he has resided during the last few years of his life. That journal was certainly the boldest and most outspoken of any which has ever been published in Canada. Of course it had many enemies, and it received a blow from a fire which destroyed the printing office where it was published, from which it never recovered, notwithstanding the wonderful energy with which it was brought out again, almost immediately, by its youthful proprietor and editor. Perhaps this only hastened its fall. Mr. Dorion then went to reside in a part of the Eastern Townships just opened up by the construction of the Railway, and began business as a storekeeper at *L'Avenir*. But he had an irresistible tendency for public discussion through the press, and he shortly established another journal called *le Difficteur*, which though conducted with similar independence to *L'Avenir*, avoided the handling of topics which lie outside of politics, and has, we believe, exercised a very considerable influence over the population of the part of the country where it has been published. Mr. Dorion has, moreover, sat in several successive Parliaments for the Counties of Drummond and Arthabaska, and he enjoyed a great deal of popularity throughout that part of the country. Few men have had to fight their way against greater obstacles than Mr. Dorion,—beginning life without means, with a small figure, and a weak, shrill and not very pleasant voice, it did not seem to be given to him to command much of the public attention. These difficulties of his position, however, were overcome by untiring industry and courage, and considerable talent for debate; so that we suppose there were at the time of his death few men who on merely personal grounds commanded more respect among those among whom he resided, and whom he frequently addressed on all subjects of public interest. Mr. Dorion was a person of the most independent character, and he has died in harness, working to the last for the promotion of public morality, and for the developing of the resources of the neighbourhood where he had taken up his residence.—Abridged from the *Montreal Herald*, 3rd Nov.

—M. de Thouvenel, well known as a senator, politician and diplomatist, expired at Paris on the 18th October last, at the age of 48 years. He was born at Verdun on the 11th November, 1818. At the close of his studies he was admitted to practise law, and started for the East. In 1849, he published an account of his first travels; in 1844, he was sent to Brussels as an *attaché* with the French embassy; from thence he was sent to Athens, as Minister Plenipotentiary, a capacity which he afterwards filled at Munich. After the *Coup d'Etat* of the 2nd December, he was entrusted with the political direction of the Office of Foreign Affairs, a post he held till the epoch of the Conferences at Vienna. In 1860, in the midst of the diplomatic difficulties that grew out of the Italian question, he was called upon to replace M. Walewski.

M. Thouvenel has written several works, among which we may instance *La Hongrie et la Valachie* and *Souvenirs de Voyage et Notices Historiques*

MISCELLANEOUS INTELLIGENCE.

—A Proclamation printed in an *Extra* of the *Canada Gazette* of the 10th December, 1866, officially announces that in consequence of the absence from the Province of Lord Monck, Sir John Michel, Commander of the Forces, has assumed the duties of Administrator of the Government from the date above mentioned.

—Hon. Rufus Choate in his address once said: "Happy is he who has laid up in youth, and held steadfast in all fortune, a genuine and passionate love of reading; the true balm of hurt minds, of surer and more healthful charm than poppy or mandragora, or all the drowsy syrups of the world; by that single taste, by that simple capacity, he may be borne in a moment into the still regions of delightful study, and be at rest."

—*Town School Houses*.—God in the country is generous to children. They have all outdoors except the grain field and the tall grass. But in the city, has there been any city provision for their wants? If none has been made for them, then the children must become either trespassers or sufferers.

This, then, is the reason why every city school-house ought to have a large lot around it—a city boy's farm—where he can carry on with a clear conscience. A four acre lot where every spectator will say, "Go it boys, I like to see you."—*Herald of Health*.

—When a Spaniard eats a peach or pear by the roadside, wherever he is, he digs a hole in the ground with his foot, and covers the seed. Consequently, all over Spain, by the roadsides and elsewhere, fruit in great abundance tempts the taste, and is ever free. Let this practice be imitated in our country, and the weary wanderer will be blest, and bless the hand that ministered to his comfort and joy. We are bound to leave the world as good or better, than we found it, and he is a selfish churl who basks under the shadow, and eats the fruit of trees which other hands have planted, if he will not also plant trees which shall yield fruit to coming generations.—*New York Teacher*.

—A strong and sensible writer says a good sharp thing, and a true one, too, for boys who use tobacco,

It has utterly spoiled and utterly ruined thousands of boys. It tends to softening and weakening of the bones, and it greatly injures the brain, the spinal marrow, and the whole nervous fluid.

A boy who smokes early and frequently, or in any way uses large quantities of tobacco, is never known to make a man of much energy, and generally lacks muscular and physical as well as mental power. We would particularly warn boys who want to be anything in the world to shun tobacco as a most baneful poison. It injures the teeth, it produces an unhealthy state of the throat and lungs, hurts the stomach, and blasts the brain and nerve.—*Medical Record*.

—The *Journal of the Society of Arts* announces the discovery of lithographic stone in Paris. In levelling the heights of the Trocadéro, for the new Place du Roi de Rome, a stratum of stone, as fine in grain as that used for hones, and from eight to twelve inches in thickness, has been laid open. A lithographer passing by the spot was struck with the resemblance of this stone to that used in his profession, and having obtained a piece, he caused it to be cut, polished, and dried in an oven; and having drawn a design upon it, succeeded in obtaining a number of excellent impressions of his drawings. It is said that this valuable discovery is likely to be turned to account.—*Educational Times*.

—The following recipes for copying-ink are taken from *Chemical Technology*.—(1.) 3 parts by weight of white glycerine; 3 of purified white honey, best quality; 10 of violet, black, or other coloured ink. Mix up well, and leave the mixture to settle two or three days before using. (2.) 4 parts by weight of white glycerine; 4 of purified white honey, best quality; 10 of Robertson's ink; $\frac{1}{4}$ of powdered gum arabic. Add one or two drops of strong solution of bichloride of mercury, to prevent deterioration of the ink; stir up well, and leave it to settle for two or three days before using. If it should be found, in taking copies from inks according to Recipe No. 1, that thicker characters are produced than those of the original, the proportions of glycerine and honey may be respectively reduced to 2 parts of each, or another quarter by weight of 1 part powdered gum arabic may be added.

—*The Tomb of Champlain*.—A couple of weeks ago *Le Courrier du Canada* announced that the Rev Messrs. Laverdière (the learned librarian of the Laval University), and Casgrain (the author of a charming volume of Canadian Legends), had discovered the tomb of Champlain, the illustrious founder of Quebec and first Governor of the Colony of New France. From the narrative of the Jesuit Father Paul Le Jeune (1868, page 56), we learn that Champlain died on the 25th December, 1636. In the *Cours d'Histoire* of the lamented Father Ferland (vol. 1, page 273), we find it stated that the body of Champlain was interred in a chapel adjoining the Jesuit Monastery (*Résidence*) of *Notre-Dame de Recouvrance*, known as "*La Chapelle de Champlain*." In Father Paul Le Jeune's narrative for 1640, page 50, we learn that this chapel, the monastery of *Notre-Dame de Recouvrance*, and the public church of the settlement, were all destroyed by fire during that year—everything being lost in the flames, and the missionary Fathers being left with nothing but the clothing on their persons at the moment of the catastrophe.

So far the indications are clear as to the place of Champlain's sepulture; the only difficulty being to decide as to the exact spot on which stood the aforementioned chapel. And this is the discovery made by Messrs. Laverdière and Casgrain,—a discovery which gives great satisfaction to those interested in the antiquities of our renowned old city, and a full account and explanation of which we are promised in a few days.

From the announcement already alluded to and from letters on the same subject by Mr. Stanislas Drapeau and Mr. Hugh O'Donnell, Surveyor of the Water Works, each claiming a share in this interesting discovery it appears that the tomb of Champlain is a vault situated near the foot of the Mountain Hill Steps, laid bare on the 27th March, 1856, while excavating. In this vault was found a coffin and some human remains; and recent research has brought to light, in the same spot, an inscription in the peculiar spelling of the 16th century, in which the baptismal and surname of the heroic founder of Quebec is distinctly eligible.—*Quebec Mercury*.

—The *Lancet* gives the following description by Mr. Glaisher, of the "blue mist":—"One of the most remarkable atmospheric phenomena during the past quarter has been the prevalence of a peculiar blue mist, first seen by myself on July 30, but which had been remarked by other observers in the preceding week. This blue mist since that time has been generally present. . . . It has extended from Aberdeen to the Isle of Wight, and of the same tint of blue everywhere. This mist increased in intensity when viewed through a telescope; usually no mist can be seen when thus viewed. It increased in density during the fall of rain; usually mist rises after the fall of rain. Its density did not decrease when the wind was blowing moderately strong, but did decrease when a gale was blowing, and increased again on its subsidence. I do not know the nature of this blue influence, but the fact of its presence not having been noticed since the cholera period of 1854 till now points out a possible connection, and, independently of this, it is of high meteorological interest."—*Exchange*.

—Agricultural science has made rapid advances throughout the country. The French Canadians have obtained of late years considerable success at the agricultural exhibitions; and at the great plough match which recently took place in Montreal, Mr. F. N. Gambier, of the parish of Montreal, carried off the first prize. Our fellow citizens of French descent have furnished more than one-third of the competitors this year, and several among them have carried off the prize from their rivals of British origin. This fact, says a contemporary, should induce the different agricultural societies to amend their regulations which prescribe separate competition for the agriculturists of the two nationalities.

—We translate from the *Journal de Québec*, the following despatch which has been received by His Excellency, the Governor General, from the Secretary of State for the Colonies:

"Downing Street, 7th Nov., 1866.

"My Lord,—I have received with extreme regret your despatch of the 22nd October, announcing that a fire had completely destroyed a great part of the city of Quebec, outside the walls.

"I have laid your despatch before the Queen, and have received orders from Her Majesty to express her grief at this disaster and her sympathy for those whom it has deprived of their homes and property at the approach of winter.

"You will learn, through ordinary channels, the news that public subscriptions were immediately opened for the relief of the sufferers by the fire, and I hope they will soon reach an amount which will contribute materially to aid the efforts which are being made in Canada to alleviate this terrible calamity.

"I have, &c.,

"(Signed),

CARNEGTON.

"The Right Hon. Governor Viscount Monk."—*Daily Witness*.

LORD PALMERSTON AS AN EXAMPLE TO PUBLIC MEN.—I believe they are mistaken who attribute to the Providential blessing of a good constitution the ability of Lord Palmerston. While out of doors he performed the laborious duties of his high office, he set indoors and to younger men the example of indefatigable attention to the public business. I am convinced it was the force of will, the sense of duty, and the determination not to give in that enabled him to make himself a model, for all of us who yet remain to follow him with feeble and unequal steps in the performance of some of the duties which it fell to his lot to discharge. His, I may add, was a force of will which did not so much struggle against the infirmities of old age, as repel them and keep them at a distance. One other quality there is which Lord Palmerston possessed which I may mention without the smallest risk of stirring up a single painful emotion, upon which it is most delightful to dwell, and which is the last I shall mention. It is this, that he had a nature incapable of enduring anger or resentment.—*Mr. Gladstone*.

—He who suddenly kills a man, for the sake of robbing him, is a murderer; we have laws to hang him, and so netimes do hang him. But he who slowly poisons a multitude of people, for the sake of cheating them, is a respectable tradesman; we make him an alderman, congressman, deacon, or bank-director; and he dies full of years and honors, and his children live in the Fifth Avenue.

Philosophers in all ages have amused the people by telling that copper, lead, zinc, and their compounds are poison; yet tradesmen convert them into vessels in which food is prepared, into water-pipes and cocks, and in many ways get them into contact with what we eat. The philosophers occasionally excite the admiration of learned societies by tracing epidemics to poisoned water, or bread, or pickles, or pork, or coffee, or other article of diet; but all this has little effect on "practical men," except to increase their contempt for theorists.

Whether the time will ever come when such foolish things as brass cocks, lead pipes, copper kettles, and zinc tanks will be put away, is a question for prophets rather than for philosophers; but if ever it does come, it is likely that longevity will be considerably increased. Though we can't see that a little copper, or lead, or zinc if it ever really gets into water or food from vessels that are kept clean does much harm as a poison (if it really does any harm), we don't like the risk of it. The other day we reported a fellow who had poisoned over 300 people by filling the holes of his mill-stones with lead; that could not be a mistake; but it was too big a dose, and not an argument to prove that brass cocks, copper boilers, lead pipes, &c., can do harm, when kept clean; so practitioners assure us. But we have no faith in them.

What, then, shall we use as material for such vessels? Shall we use iron, and make dye-stuff of our tea? If this question be put as a question, and not as an answer, it is well worth considering. What can we make cocks of for the half-million house water-pipes in New York? is a question that may involve a new trade, and the health of a million people.

We have recently seen accounts of turning glass. Boring glass, and moulding it, are old processes, which possibly may be improved. Grinding in stoppers and plugs is a common practice. We have had schemes, that

were deemed plausible to men of some talent, to use glass pipes for the distribution of water in houses. On the whole, were we very wealthy, we would rather prefer glass cocks, at the risk of losing money, than use brass, at the risk of losing health, or even white metal, in which we have no implicit faith. As a cheap article, black glass cocks may be worth thinking about.

The tin-lined lead pipe which is manufactured in New York is doubtless a great improvement, and may last a great many years; but in time the water may get at the lead, and very soon, if the joints be made by inexperienced workmen, there may be a trace of poison—more than a liberal man would like for himself and his family. We should rather not have even a suspicion of poison in water-pipes, cocks, kettles, or anything else. For steam-fittings we have no prejudice against brass; but, although we profess the Christian faith, we make too much account of this life to be indifferent to the influence of these poisons, even in a medicinal dose; life is too important to be thus trifled with, even by the righteous, who expect a better life when they cast off their present bodies. What then should it be to the great majority of wealthy speculators, who have means and influence to change the practice of the manufacturers of these articles?—*Am. Artizan.*

The import of Esparto grass for paper continues to increase. Last year the imports into England were 51,522 tons, against 19,190 tons in 1853. Mr. West, the British Secretary of Legation at Madrid, says: "This grass, which grows wild in almost all parts of Spain, resembles very much the common spear grass which is found on the sandy sea-shores of Lancashire. Its botanical name is, I believe, *Stipatenuscissima*. It has long been used in Spain for making matting, cord, baskets, etc., and appears to have been used for such purposes by the Phœnicians, who gathered large quantities from the coast of Spain."—*Exchange.*

—An American Journal says:—"It is reported in the newspapers that on the 4th inst. a boy, in the city of Portland, lighted a Chinese fire cracker and carelessly threw it among some shavings in a cooper's shop. The consequence was that the greater part of the city, since accurately surveyed, and found to cover an area of three hundred and twenty-seven acres was burned, and upwards of \$10,000,000 worth of property destroyed. The destruction of life and property in consequence of the free use of this mischievous explosive ought to cause stringent laws to be made, prohibiting its importation."—*lb.*

—We have had on our file for some time, and omitted to notice, an Act which was assented to on the 15th August last, and is of considerable importance for the public to know. It is to regulate the means of egress from public buildings, and corporate bodies, or proprietors of such, had better take notice of its provisions. The first section enacts that in all Churches, Theatres, Halls or other buildings in this Province hereafter to be constructed or used for holding public meetings, or for places of public resort or amusements, all the doors shall be so hinged that they be open freely outwards, and the gates of outer fences, if not so hinged, shall be kept open by proper fastenings during the time such buildings are publicly used to facilitate the egress of people, in case of alarm from fire or other cause. The section enacts that Congregations or others occupying Churches, and individuals, corporations and companies owning Halls, Theatres, or other buildings used for the purpose of holding meetings, or places of public resort or amusement, shall, within twelve months from the passing of this Act, be required to have the doors of such Churches, Theatres, Halls or other buildings, so hinged as to open freely outwards. The penalty for the violation of the Act is a fine not exceeding fifty dollars, and a further sum of five dollars for every week succeeding that in which the complaint is made, if the necessary changes are not made. And Congregations of every description, Incumbents, Church Wardens, Ministers or Trustees are held liable for their dissent societies or congregations for any and every transgression of this act.—*Montreal Transcript.*

—During the Mexican war, one newspaper hurriedly announced an important item of news from Mexico, "that Gen. Pillow, and thirty-seven of his men, had been lost in a battle." Some other paper informed the public, not long ago, "that a man in a brown surcoat was yesterday brought before the police court on a charge of having stolen a small ox from a lady's work-bag. The stolen property was found in his waist-coat pocket." "A rat," says another paper, "descending the river, came in contact with a steamboat, and so serious was the injury done to the boat, that great exertions were necessary to save it." An English paper once stated "that the Russian General Raskinozkowsky was found dead with a long word in his mouth." It was, perhaps, the same paper that, in giving an account of a battle between the Poles and Russians, said that "the conflict was dreadful, and the enemy was repulsed with great laughter."—*American Pop'r.*

—Perhaps the most curious specimen of minute workmanship ever constructed was a high-pressure engine made by a London watchmaker in 1845. Each part was made according to scale; it worked by atmospheric pressure instead of steam; yet it was so small that it stood on a fourpenny piece, with room to spare, and, with the exception of the fly-wheel, it might be covered with a thimble.—*Exchange.*

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